PHILADELPHIA, SEPTEMBER 20, 1884.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON HEMIPLEGIA OF CEREBRAL ORIGIN.

Delivered at the Department for Nervous Diseases of the Manhattan Eye and Ear Hospital, New York,

BY W. R. BIRDSALL, M.D.

(Reported for the *Philadelphia Medical Times.*)

GENTLEMEN,—Here is a case which represents a very common form of paralysis. On seeing the patient walk you will detect at once a gait which is common to the form of paralysis known as hemiplegia of cerebral origin. A study of the gait in these cases is important; and I will show you presently a patient who has another form of paralysis, that you may be able to contrast the two. Notice the position in which the patient holds his paretic arm: nearly all the muscles are flexed; the elbow is drawn to the side of the body rather tightly; the forearm is flexed upon the arm, and the hand is slightly flexed upon the forearm; the fingers are flexed on the hand, and the thumb is flexed within the fingers. The flexors in this case of hemiplegia contract more strongly than do the extensors, and we have the condition known as *contracture*,—the late rigidity of hemiplegia. Testing his power, you will notice that the muscles of his hand are affected more than the larger muscles of the extremity, or, in other words, the muscles which are most under voluntary control are the ones which are principally affected by the paralysis. You see he has very little power to extend the hand, but he has considerable power to throw out the elbow. The deltoid movement is good; the extensors of the wrist and fingers are affected, and the small muscles of the hand are also affected, the patient having almost no power over them. These muscles are the ones which, in the normal state, are particularly under voluntary control.

Looking at the trophic condition of the parts, we find the nutrition is nearly normal. The temperature is about the same as that on the normal side. On the paralyzed side there is a peculiar curving of the nails, which is not noticed in those on the other hand: so that we do get trophic changes of a peculiar nature in this case of paralysis due to cerebral disease, which is quite different from what we observe in the paralysis of these muscles due to a lesion of the spinal cord.

With regard to sensory disturbance, the patient says he feels a tingling sensation in the fingers at times and some numbness in the arms. He has described to me several times a slight numbness; but when we test sensation with the æsthesiometer, comparing the two sides, we find that there is no difference: so that, while he has no anæsthesia, strictly speaking, he has some numbness, or paræsthesia, as it is termed. Sometimes we have increased sensibility to painful impressions,—hyperalgesia,—but here this sense is normal.

With regard to motor power, tested with the dynamometer, the left hand registers 95, while the right, or the paralyzed hand, registers only 20, and about a month ago only 10.

I wish you to notice the elastic condition in the paretic arm. If you tell him to flex the right arm, you will find voluntary fixed resistance to your efforts to straighten the arm, whereas on the affected side there is observed elasticity, due to the contracture.

If he close the right or unaffected hand tightly, he at the same time contracts the left hand with equal or even greater power than when he attempts to grasp the dynamometer with that hand. This is termed an "associated movement," and is present in certain forms of paralysis. Attempts have been made to explain it in various ways. One theory is that the voluntary impression which extends down the healthy side passes over by commissural connection in the cord to the centres in relation to the opposite member. You can readily see how this might occur, since the pathway of communication is interrupted above.

In testing his gait, you notice that he swings the affected foot out a little in order to prevent its touching the floor, from the fact that the knee is not bent and the toe is not raised. You notice also a little more stiffness in his gait than is normal.

Testing the tendon reflex of the lower extremities, and comparing the two sides, we find that on the affected side it is greatly exaggerated. The muscular contraction is quicker and more violent. Not only is the reflex from the patellar tendon

greater, but also that from the muscle itself. This latter phenomenon is termed muscular excitability. On the right side there is no response from touching the muscle itself. In the legs we find the condition of nutrition good; the muscles are normal; the skin is of equal temperature on the two sides, and there is no more waste on the affected side than you would expect from moderate disuse. Another interesting point is the fact that while there is almost absolute paralysis in the muscles of the arm, in the muscles of the lower extremity we find paralysis present to a less degree, and this corresponds to the fact explained with regard to the upper extremity, that the muscles under voluntary control are the ones most affected in paralysis from cerebral disease. The muscles of the lower extremity are not so much under control as are the muscles of the hand; they are not so much a cerebral tool, so to speak, and are less affected.

It is with difficulty that you detect any paresis in the muscles of the face, although at an earlier period there was some paresis here. Even now you will notice that the naso-labial fold is not quite so distinct on the right as on the left side, and the corner of the mouth droops slightly. He is able to close the eyelids tightly, but in these cases of paralysis from cerebral disease, if you find the facial involved, it will be the lower division. We may almost consider the facial nerve as representing two distinct nerves, the upper division supplying those muscles which surround the orbit, the ocular muscles, and the lower division supplying those muscles in the lower portion of the face and surrounding the mouth. It is the lower set of muscles which are mostly affected in hemiplegia of cerebral origin, because the lower facial group is particularly under cerebral control. The speech-muscles and the muscles of expression are mostly located in the lower part of the face, and there is reason to believe that there are separate nuclei of origin of these different parts of the facial nerve. A point of distinction which, of course, is familiar to most of you, between the cerebral form of paralysis and the common form known as Bell's paralysis, is that in the latter all the muscles are affected.

The pupils seem to be normal; the tongue is straight; the uvula is straight, and the palatal arches are equal; and the latter is a more important sign than the condition of the uvula. In other words, all evidences of paralysis have disappeared from the head-muscles, the muscles now principally affected being those in the forearm, and it is the rule in cerebral paralysis that the facial muscles recover sooner than others.

Testing the muscles with electricity, we find that the reactions are normal, being equal on the two sides. The same degree of current will produce the same result in corresponding muscles. With the galvanic current there is the normal formula of contraction. So we may exclude a peripheral affection, or affection of the nuclei of origin of the motor nerves in the anterior horns, as far as the extremities are concerned.

When we come to inquire into the history of this case, you may be surprised to see so young a man—twenty-eight years of age—affected with hemiplegia. We naturally associate cerebral hemiplegia in our minds with the aged, and for the reason that a great many cases of hemiplegia are due to hemorrhage, and hemorrhage, the most frequent cause of which is miliary aneurisms, seldom occurs under forty, if we except the cases of meningeal hemorrhage of infancy: so that in a case like this we may fairly exclude hemorrhage, and we are limited to thrombosis, or, I may say, occlusion of the arteries by either embolism or thrombus, or a neoplasm, such as a syphilitic neoplasm. Syphilitic arteritis is a thing to be thought of; but when we come to inquire into the history of the case, we find that this can be excluded, the attack having been rapid in its onset, the man giving no history of specific disease. The disease with which he was affected at the time when the attack came on throws light upon the probable origin. This man had typhoid fever in September; he was well enough after nine weeks to leave the hospital, but after that he had a relapse, during which he became unconscious, and while unconscious paralysis developed rapidly. We have, then, two conditions, thrombosis and embolism, which might account for this lesion, and it would seem most probable that thrombosis was the cause. He has no heart-disease; but that is not evidence that it was not embolism. We have cases of embolism in which we are unable during life to detect

any cardiac disease; but it is well known that in typhoid fever, and in other low fevers, there is a decided tendency to the formation of thrombi. You know how often we get occlusion of the veins from that cause. This is altogether the most probable cause of his attack.

With regard to the location of the lesion, when we think of the different lesions affecting motor functions, we consider the cortex of the so-called motor area, and the tracts which lead from this cortical area down to the cord. This is generally known as the pyramidal tract. The continuation of these fibres from the motor areas of the cortex into the lower parts, whence they pass through and between the great ganglionic bodies of the brain, is that known as the internal capsule. Hemorrhages and some other lesions are more apt to occur in this particular region than in others. The most frequent location of lesion producing this general affection of the face, leg, and arm is the internal capsule. Where we have cortical disease we are more apt to have the paralysis limited in some particular way to the arm, the face, or the leg, in a manner different from what we have here; and associated with it very often is evidence of persistent intracranial disease, such as we get from tumors, meningitis, and other affections of a similar character.

As to prognosis, in a case like this, in which there is positive paralysis accompanied by decided contracture, there is evidence of quite decided destruction of nerve-tracts, and the possibility of the man fully regaining power in the arm is somewhat doubtful. His leg will probably improve. It has already improved somewhat. And his arm will improve to a considerable degree, but there probably always will be quite decided impairment of power in this member, largely due to the fact that the contracture is marked.

His mental state is not affected. Many of these cases show a decided exaggeration of emotional traits, and often a mild form of dementia is present. The emotional disturbances are apt to be more marked when the paralysis is on the left side,—that is to say, when the lesion is in the right hemisphere. Of course we do not get the disturbance of speech known as aphasia where the lesion is in the right hemisphere, unless the arrangement is different,—that is, in some cases in which the patient is left-handed, for example, we find aphasia comes from left hemiplegia, but rarely under other circumstances.

With regard to treatment, he has been receiving tincture of nux vomica, ten drops three times a day, as a general tonic, and has had applications of the faradic current three times a week to the paralyzed muscles. On applying the current to the extensors of the arm we find that the flexors relax somewhat, the contracture is somewhat relieved, but, unfortunately, this effect is not permanent. The strength of contracture varies somewhat at different times, also without the application of the current. I have thought that galvanism applied continuously—quite a decided current, one pole on the back of the neck and the other passed slowly over the contracted muscles—had some effect in relieving the contraction; more so, perhaps, than the faradic current. When I use the faradic current in a case of contracture, I apply it to the muscles that are not involved in the contracture. Sparks from an influence machine or an induction coil also have a temporary effect in relieving the contracture, sometimes when other methods of electrical application have failed. But with regard to the value of electricity in these cases, I am inclined to think it is very limited. A certain number of patients claim that they get relief, that they feel better after the current has been applied, but it is usually not relief which permanently affects the paralysis to a great extent. This applies to the great majority of cases of decided hemiplegia. A certain number of mild forms, however, do improve, and rapidly, under the influence of the faradic current alone, and it is probably, on the whole, the most serviceable method of treating such cases as far as electricity is concerned. You will find, however, that the general health of the patient affects the condition of paralysis a good deal, the emotional state as well; and anything which will enable you to keep up the general tone of the patient will affect to a certain extent the condition of the paralysis, improving it. Often we find that allowing the patients to go out of town, getting a change of air, or anything which affects the general tone of the system, will improve their muscular power in the paretic parts.

Case II.—Here is a patient who will

serve for certain purposes of comparison. His gait is somewhat similar to that of the other, but there is a slight distinction which is an important difference. He does not throw his foot out as much, but allows it to fall with a slight slap upon the floor. He bends his knee a little more; there is not as much stiffness and rigidity, and the foot is allowed to fall to a slight degree, in a manner similar to what we find in paralysis due to a lesion in the anterior horns of the cord. This is only present to a slight extent because the case is a somewhat irregular and unusual one. I will refer to this point again.

I would call your attention to the speech. The words are spoken rather slowly, and the syllables are not distinctly enunciated. One or two syllables are spoken distinctly, and the others are slurred over. This, with slowness, is a condition characteristic of cortical disease, such as we get in general paresis of the insane, and also in other cortical affections, such as syphilitic lesions. It is not the speech of labio-glosso-pharyngeal paralysis, which is characterized by what is known as syllabic enunciation. The syllables are distinctly enunciated, but are separated, the patient speaking each syllable, one after the other, in a sort of staccato manner. Here you do not notice that. Asking him a general question, you will find that in replying he speaks a few words quite regularly, and then a few syllables are slurred. He has not noticed this himself, but says that his friends have called attention to it. It is not as well marked at present as it was when he first came to us. His attack came on about two years ago. When on the street he felt a slight numbness in the leg, which gradually increased and extended over the whole side, but he finally managed to get home, when paresis became decided in the arm, leg, and face. For two weeks he was unable to use his limbs to any great extent, but during this whole period he did not lose consciousness. After about two weeks, without any treatment, he began to improve. When I first saw him he had evidence of slight facial paresis, traces of which still remain, and you can see more readily than you could do in the other patient the difference between the two sides of the face. The naso-labial fold drops, as does also the angle of the mouth. As in the other case, it is the lower part of the face that is affected. The tongue is protruded in a straight line. He did not notice any difficulty of speech when the attack came on.

The upper extremity does not show very much paresis at the present time, and still with the dynamometer we find it registers only 70, while upon the left side, or unaffected side, it registers 80. With regard to the dynamometer, it is only useful as a relative test between the two hands, and, as the difference in different individuals is very great between the power of the two hands, we must not place too much reliance upon it. If you have a right-handed man, however, and you find his left hand stronger than the right, it is evidently an abnormal condition, and, although the difference is very slight here between the two hands, it shows that there is paresis of the right hand.

Inasmuch as this is a case of right hemiplegia, we might raise the question, may not his speech-disturbance be aphasic? But this is not the form of speech-disturbance which we get in aphasia. In aphasia there is loss of memory of certain words. The patient is unable to find the right word, or mispronounces it. The articulation should not be affected. He may speak the wrong word, he may get in a syllable which does not belong there, but this slight slurring of the speech is not characteristic of the aphasic condition. It is, however, quite characteristic of cortical lesion, a degenerative condition of the cortex of certain parts of the speech-area.

There is a specific history in this case which I think throws a good deal of light on the character of the condition. There are evidences of primary sore, of syphilitic eruption, mucous patches upon the tongue, occurring about ten years ago. Although the patient was treated for nearly a year, his intemperate habits, according to his own admission, he thinks had much to do with his not recovering as well as he might otherwise have done.

Now, here is another factor,—his intemperate habits. You know that in patients at his age, thirty-seven, we may have from chronic alcoholism a mental condition such as we have here. This condition of speech also approaches very closely to that of the ordinary type of general paralysis of the insane. Again, syphilitic disease may give rise to similar symptoms. This man had been a pretty hard drinker for a number of years. We do not, however, from alcoholism alone usually get the decided attacks of

hemiplegia of which this man gives a history. From syphilitic disease we do; and from the fact that this man had syphilis a number of years ago, we may presume that his symptoms are due to that disease. It is usually a number of years before we get the evidence of syphilis in the central nervous system, although it is by no means necessarily a long period. We find that the usual lesions which syphilis produces are the ordinary gummata, syphilitic meningitis, and syphilitic arteritis. I believe that in its intracranial effects syphilitic arteritis is the most common, and may lead to the slow occlusion of the arteries. The most probable cause of this man's hemiplegia is that of arterial occlusion, and in regard to its location we would be led to infer, as in the other case, from the extensive distribution of the paresis, that it is probably somewhere in the internal capsule, or in parts of the pyramidal tracts below their cortical origin. At the same time, this will not account for his speech-disturbance. I think we have got to conclude that there are other changes going on in the cortical vessels themselves, and probably of a similar character: these tend to produce the degeneration which we find in these cases, which simulate in their symptomatology, and to a great extent in their pathology, the changes found in general paresis of the insane. I will not attempt to differentiate between the two conditions to-day.

There is one point about this man's case which I have not yet mentioned, and that is that he is remarkably cheerful, and feels that he is getting well very fast. He is very positive about this, a great deal more so than I am, and he asserts in very decided terms that he is perfectly well, except for very slight stiffness in the legs. In other words, his mental condition seems to have been such as to exaggerate his condition of good health. This characteristic is also one which we often see in the common type of paresis of the insane, and sometimes in chronic disease due to syphilis or alcoholic excess.

His treatment has been mainly internal. He was put upon the iodide of potassium, commencing with doses of fifteen grains, and increasing about two grains a day until he had reached a dose of sixty grains three times a day. He took for nearly a month drachm doses, and now for the past month he has been entirely without any drug. I am in the habit of increasing the dose rapidly up to as much as a drachm, and sometimes, if the patient tolerates it well, up to as much as an ounce, a day, in cases of this sort. I say in cases of this sort,—I mean to say in cases of syphilitic arteritis or syphilitic gummata, and in which the symptoms are very urgent, such as headache, which, however, has not been prominent in this case, and other symptoms indicating intracranial pressure. And I combine mercurial treatment with it, generally in the form of inunction, bringing it up to the point of slight mercurialization. In the mean time, this patient has been receiving bitter tonics. I should say that the iodide of potassium ought to be given with large quantities of water. Many patients will tolerate immense doses of the iodide of potassium if you will only dilute it sufficiently, whereas they may not be able to take more than ten grains if the quantity of fluid is small. Probably the water also has a beneficial effect in aiding the eliminating action of the iodide of potassium. This patient also had electrical applications (faradism) to the leg, and he says that after the first application he felt almost entirely relieved. But I attribute this also to his happy frame of mind, by which he looks upon all that pertains to his disease in a favorable manner. But he has undoubtedly improved in his speech and in locomotion; his facial expression is brighter, and there is a less stupid look. The case is an interesting one to bring in contrast with the other, the first representing a common form of hemiplegia, while this one represents the effects of more than one lesion. We could not account for the condition which is present here by the simple lesion which has caused hemiplegia, although, as I have before stated, we do sometimes get decided dementia and changes in the emotions in hemiplegia from a single lesion, but not of this type.

With regard to whether there can be recovery from occlusion of the arteries, embolism, or hemorrhage, it depends largely upon the extent of the lesion. We cannot expect to get recovery of nerve-fibres which have been actually destroyed, but there is the possibility in the cerebral structure of there being pathways which have not been as frequently traversed acting as lines of communication between the cortical centres and parts below. In young patients these tracts are mapped

out quite distinctly after a time, and they seem to have acquired new functions. And then undoubtedly a certain number of the fibres at the seat of change have had their functions only partially interfered with, not actually destroyed, and it is possible that some regeneration takes place. But regeneration in this region is probably quite limited. Where a decided destruction has taken place, either from a clot or from softening, resulting from shutting off of nutitive supply by embolism or thrombosis, we are pretty sure to have permanent destruction, which is shown by post-mortem examination where we find shrinking at certain spots, indicating that actual destruction had taken place which could not be fully regenerated. So we cannot any more expect to get curative results, where destruction has taken place, than after amputation of certain parts. But what we may do in a case like this is to prevent further destruction. And that is the probable reason why syphilitic disease of the brain and nervous system generally is considered a favorable form, considering the gravity of the symptoms; but if we take a case in which the syphilitic disease has gone on to produce destruction of the nerve-tissues, we shall have but little more reason to expect recovery than in a case due to any other lesion. It is the fact that in the syphilitic case we may hope to interrupt the process which is going on, and which, if let alone, would produce still more decided destruction, that gives us greater encouragement in this form of disease of the nervous system. If we take such a case soon enough, before a great amount of injury has been done to the nervous tissue, then it will end in pretty complete recovery. But I think the idea that syphilis is a benign disease as far as the nervous system is concerned, is one which has been rather exaggerated.

We undoubtedly have in this condition, where it is allowed to continue, some of the most unfortunate cases and most unsatisfactory results, although there is nothing more brilliant than the effects we can obtain in some cases by appropriate treatment in cutting short many of the symptoms of intracranial syphilis.

THE cholera having crossed over into Italy, its ravages are greater there than in France. The daily papers recently reported over eight hundred cases daily at Naples, with a large death-rate.

ORIGINAL COMMUNICATIONS.

BORO-GLYCERIDE, THE NEW ANTISEPTIC.

BY WILLIAM THORNTON PARKER, M.D. (MUNICH),

Acting Assistant-Surgeon, U.S. Army.

THE development of antiseptic surgery by Lister, which was indeed one of the greatest triumphs of modern surgery, gave to the medical profession an undue amount of confidence in carbolic acid. The true source of the great surgeon's success was apparently lost sight of, and the idea became prevalent that carbolic acid in continuous contact would protect almost any wound from an unfavorable result.

Esmarch has demonstrated that "the first and most important principle in the treatment of wounds is to keep at a distance *all injurious influences* which can hinder or retard their healing." *

It was the accomplishment of this principle in Listerism which, in spite of the carbolic acid, gave it such great success and revolutionized surgery in the treatment of wounds.

The good results went forward until at last their limit was reached, and, in the wild extravagance of the carbolic acid folly, the dangers from poisoning by this agent were at last demonstrated. A reaction from the "Lister fever" set in, and "*Fort mit dem Spray!*" was to be heard from every side.

The absorption of carbolic acid by the wound-surface and by the lungs of the patients, and the undeniable symptoms of severe injury, with the occasional occurrence of even fatal results, caused general alarm.

Whatever may be the defects in Lister's system of antiseptic surgery, its good results will continue for all time, and the gratitude of countless sufferers will be due to him for his great discovery.

Where carbolic acid had formerly received the enthusiastic support of surgeons, a terror of its presence now appeared, and new and better antiseptics were sought for in every direction. Most notably, iodoform was experimented with, and, good results being obtained, it too enjoyed a brief season of extravagant flattery. Among these more recent substitutes proposed was boric acid, in solution or in combination.

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* The Surgeon's Hand-Book, Esmarch.

The use of borax in the treatment of wounds and as a valuable preservative has been known from the earliest times, and almost every work on surgery acknowledges its valuable antiseptic properties.

It has been recommended for years, in solution, in powder, in ointment, for the treatment of wounds, burns, and sores of all kinds; and yet, when the dangerous properties of carbolic acid in wound-treatment had been proved over and over again, and no satisfactory substitute discovered, borax still remained in quiet obscurity.

In 1882, after having witnessed the unsatisfactory workings with carbolic acid and iodoform in Continental hospitals, I had the pleasure of seeing the new antiseptic, boro-glyceride, in use at the Charing Cross Hospital, London.

In 1870, after I had followed the clinics of Lister in Edinburgh and shared in the general enthusiasm over carbolic acid, and after experiencing the discouragement which came to so many in after-years, and which, in fact, at last amounted to a revulsion against the carbolic acid, I was less ready to believe that in the new antiseptic, boro-glyceride, there was anything more than a temporary favorite.

However, I noticed that "the worst cases" were given to boro-glyceride, and the best to iodoform and carbolic acid; but the comparison of the conditions of the wounds left no doubt in my mind as to which of the three antiseptics was certainly the most reliable and the best in every way.

Under the boro-glyceride treatment the wounds soon presented a healthy appearance; and the naturalness of color and the absence of any signs of inflammation, together with the cheerful, comfortable condition of the patient, were very obvious.

"In my observation and experience, in the boro-glyceride treatment I noticed *no increase of temperature:* in other words, no poisoning, as in the case of carbolic acid and iodoform treatment."* The wounds take on a healthy and cleanly appearance, healing rapidly.

Concerning the chemistry of the preparation, boro-glyceride is said to be of definite chemical composition ($C_3H_5BO_3$), forming a hydrate when diluted with a large quantity of water. In a solution of one in twenty or thirty it is not decomposed; it has a slight salty taste, is inodorous, and is entirely unirritating to a wounded surface, even when kept constantly applied.

It is impossible to overestimate the importance of having a reliable preparation of boro-glyceride. As soon as its merits became known, many druggists attempted its manufacture, with varying degrees of success. Its apparently simple formula deludes many, and, partly on account of the belief that it can be easily and quickly made, and partly because ordinary and even inferior ingredients are used when the purest are required, many worthless compounds have been made and sold as boro-glyceride.

A leading firm in New York City, whose preparations are generally beyond criticism, sent me a preparation of boro-glyceride which they had made, instead of sending for the particular kind I had ordered. It proved to be absolutely worthless, being little better than a mixture of boric acid and glycerin.

I regret to say that I have been unable to obtain satisfactory samples of boro-glyceride except from Theodore Metcalf & Co., of Boston, Massachusetts, whose preparation, in my opinion, is the finest in the market. Various mixtures of borax and glycerin, and also of boric acid and glycerin, simply mixed, have been falsely called boro-glyceride. The superiority of the preparation of Messrs. Theodore Metcalf & Co., I have been informed, is due to the fact that they use only pure glycerin and imported English boric acid in its manufacture.

Surgeons using these inferior compounds have failed to bring out good results with them, and it is not to be wondered at that, failing once or twice, they have abandoned this valuable antiseptic, and have even condemned it as no better than its predecessors; and yet I firmly believe that the time will arrive when its true merits will be recognized and a discrimination which can only be brought about by experience used in its selection.

It is not the object of this paper to advocate any one firm as the best manufacturers of the new antiseptic, boro-glyceride; but up to the present time the only preparation which has proved satisfactory in my experience in this country has been

* New York Medical Record, September 23, 1882. Communication on "Boro-Glyceride," by the writer.

the one already mentioned. It will afford me great pleasure to bear witness to the excellence of any other preparation of boro-glyceride than that which I am in the habit of recommending at present, if equalling this in purity.

Of five samples from other firms of good standing, only one at all deserved the name of boro-glyceride, and even that one was very carelessly manufactured. Undoubtedly, a good preparation of this antiseptic is expensive, and must continue to be so until its merits have been more fully understood and brought into practical use by the medical profession. It is somewhat surprising that, in this eager hunt for a safe and effective antiseptic during the past ten years, its valuable properties have until recently remained in obscurity.

Besides the valuable properties of boro-glyceride as an antiseptic after surgical operations, I have already, in previous articles, called attention to its usefulness in many diseased conditions as an application of great value. I have recommended its use in gynæcology, in solution as an injection for leucorrhœa, vaginitis, etc., and also pure boro-glyceride suppositories.*

It is an excellent application for ulcerated cervix, spread thickly on the diseased surface. It can also be spread on absorbent cotton and introduced and applied in that manner. After considerable experience with the various preparations used for local treatment in these disorders, I find none yielding such satisfactory results as the boro-glyceride. The cleanliness and the gentleness of this remedy, and the steady improvement resulting from the use of boro-glyceride, will be very satisfactory to both patient and physician.

Messrs. Theodore Metcalf & Co. have, at my suggestion, made vaginal and rectal suppositories of boro-glyceride in combination with gelatin, and pencils of the same for intra-uterine and other uses. These contain twenty-five per cent. of boro-glyceride. (See Fig. 1.)

The accompanying illustration explains very clearly their shape and general appearance. The suppositories are of three sizes,—Nos. 1, 2, 3.

No. 1, the smaller, is a useful suppository in various rectal disorders, particularly in piles, and I have also used them with great success in the treatment of "thread-worms."

No. 2 is of medium size, and can be used either for the rectum or for the vagina.

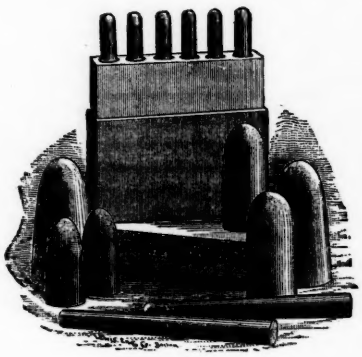

Fig. 1.

Where a larger amount of boro-glyceride is required, in cases of chronic leucorrhœa, vaginitis, or uterine disease, No. 3 suppository is indicated.

The larger suppositories should not be used more than three nights in succession, and experience has taught me that the best results are obtained usually by using them every other night.

I require the patient to use a vaginal injection of hot water just before going to bed. I recommend the use of my vaginal syringe, on account of its safety and the copious amount of water it is capable of throwing into the vagina at each compression of the large bulb. The tubes are valuable on account of their large size and many apertures, and, being made of pliable rubber, are not so injurious to the patient as the tubes generally in use. (See Fig. 2.)

"This syringe is made entirely of rubber, and the vaginal and rectal tubes are perfectly flexible. There is no terminal orifice, but the sides are perforated with 'velvet eyes' for a distance of nearly two inches from the end. These rubber syringe-points do not lacerate the mucous membrane, nor produce the injury so often caused by the hard metallic tubes. The bulb and tubes are large and insure a copious supply of water."†

The injection is best taken in the recumbent position in bed, and this has been made possible by the invention of "Dr.

* American Journal of Obstetrics, February, 1884. Boro-glyceride.

† New York Medical Record, July 5, 1879.

Baker's Vaginal Douche Pan." (See Fig. 3.)

After injecting the hot water, the suppository of boro-glyceride is to be introduced. A napkin carefully adjusted will save any soiling of the bed-linen from the melting of the suppository.

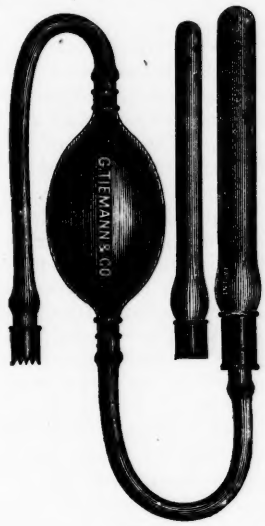

FIG. 2.

the greatest relief and improvement, and in cases where the vaginal discharges have been very offensive and distressing to the patient, the general improvement of the symptoms has been most gratifying.

As an injection in the puerperal state boro-glyceride is excellent, and should entirely supersede the use of carbolic acid, which is so offensive to many, and has in some instances proved to be dangerous.

I have no hesitation in recommending its use also in intra-uterine injections.

In chronic nasal catarrh the injection of a five-per-cent. solution has been found to answer very well.

In diseases of the eye it has been used with great success in England and also in this country.

Mr. Harbridge says, in speaking of boro-glyceride, "The way in which I have employed it in purulent cases has been to evert the lids, and, after cleaning away all pus and secretion with cotton-wool, to brush the mucous membrane over with a one-in-ten solution of the boro-glyceride, taking care to introduce it well under the upper lid. This has been repeated daily, and in the interval the mother has been instructed to bathe and clean the eyes and lids every hour with a one-in-twenty solution. No other treatment was used, and

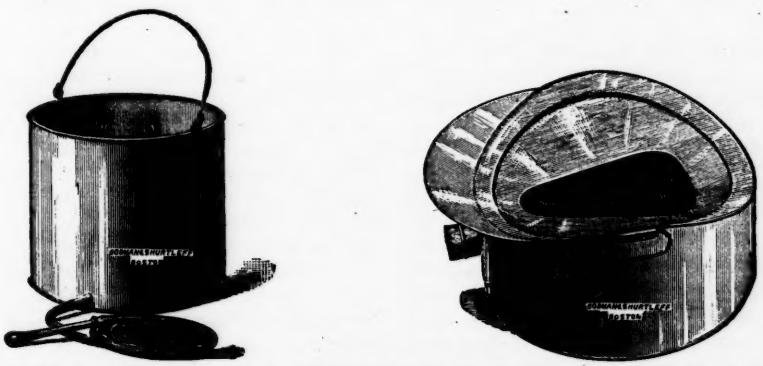

FIG. 3.—"The pan is made of tin, and is of sufficient size to contain the large quantity of water used in a single douche. It is suitably curved to support the buttocks comfortably, and is provided with a broad flange in front to prevent the water flowing from the vagina from wetting the bed."*

The action of the boro-glyceride continues during the night, and in the morning the vaginal injection is to be repeated.

The use of a dozen of these suppositories is almost certain to be followed by the cases began to improve at once, being well in from eight to ten days."†

Dr. Charles L. Turnbull has used it with much success in an epidemic of hospital ophthalmia.‡

* Dr. W. H. Baker, in Boston Medical and Surgical Journal.

† Braithwaite's Retrospect, July, 1883, No. 87, p. 279.

‡ Philadelphia Medical Times, p. 739.

Boro-glyceride is especially to be recommended as an injection in gonorrhœa, vaginitis, otorrhœa, and in cystitis. In the latter affection it is very useful when the mucus and urine are inclined to decompose and become ammoniacal. I have employed it with great success in the treatment of pruritus of the anus; where, in fact, all other remedies had failed to give relief, boro-glyceride removed all itching and proved a never-failing relief in this distressing affection.

For the treatment of indolent ulcers it can be used as a thick paste, spread upon the sore, and, aided by the use of the solid rubber bandage, will be found quite satisfactory.

Combined with cosmoline or vaseline it makes an excellent ointment, and has been used by me in this way since 1882 in the treatment of minor surgical wounds, etc. For the toilet it can be combined with "cold cream," and will be found an excellent application for chapped hands, lips, etc. Its discovery was a valuable one, no doubt, for the remedy deserves the careful consideration of the medical profession, and I am convinced will stand the test of experience.

Fort Union, New Mexico, May 19, 1884.

THE TREATMENT OF TYPHOID FEVER.

BY J. R. BLACK, M.D.,

Newark, Ohio.

HAVING lived long enough as a physician to see several of what may be termed fashionable rounds in the treatment of typhoid fever, from the mercuric ptyalism of the decade of 1845 to 1855, followed by the veratrum viride craze, then the alcoholic stimulant plan, and, as the thermometer came into use, by measures to reduce febrile calificience, such as the cold bath and toxic doses of quinine, back to mercury again at the onset of the disease in view of its germicide quality, some therapeutic reflections as seen through the retrospective and practical may be profitable.

It is a familiar truth that there are two distinct classes of minds in medical matters, as in other departments of thought,—the radically progressive and the conservative. The former, when fully developed, are always on the alert after what is new, apt to hail any discovery in medicine as the grand *salvatio* of the curative art, abounding in enthusiasm which only repeated experiences of the most disheartening kind can quench. On the other hand, the thorough-going conservative is apt to sneer at all innovations, sees only failure and objections in anything new, acknowledges the advantages of new procedures with reluctance, and is inclined to keep the disadvantages so much in the foreground that they obscure and nullify all the good. This kind of battle has gone on between the two classes for ages, and will go on for ages more, the swing being now towards the one and then in favor of the other, but of late far more towards the progressive than the conservative side, owing to unprecedented advances in some collateral and other departments of practical science. These, it need scarcely be said, have been so remarkable that there is more tolerance than of old to daring and even wild projects in art and science. Failure and defeat yet warn the wayfarer not to be over-sanguine, and in no department of knowledge is there more cause to heed this caution than in that of therapeutics. Its advances have not kept abreast with some of the other departments of medical science, and the anticipations arising from recent discoveries have yielded a far from gratifying realization. And so the curative art plods on in its to-and-fro changes, never with a revolutionizing advance.

It is quite accordant with the difficulties, intricacies, and mysteries of its subject-matter that this should be so, yet, by a steadfast adherence to certain rules, much may be taken from the eccentric deviations that tend to retard its advances. Take this one, which I opine few will dispute, that *attempts to arrest a self-limited disease, or even notably to subdue it by powerful measures, is harmful.* Scarcely any one thinks of doing this in a case of scarlatina, but a great many think of doing it, at least, to notably subdue or overwhelm another self-limited disease, typhoid fever, by powerful therapeutical measures. The nearer, by toxic doses of quinine or the cold bath, the temperature can be brought to the normal standard, the better are some pleased with the achievement; but if such a process is advantageous in typhoid fever it is difficult to perceive why it should not also be in another self-limited disease, scarlet fever. To be sure, Liebermeister and his adherents believe

that it is the high temperature and the exalted action of the heart that form the great elements of danger to those suffering by the much more protracted fever,—a hypothesis that at least needs confirmation. One cannot help reflecting on the relations and results of this belief to the alcoholic stimulant plan, which not long since was "the mode" in treating typhoid fever. Distinguished English physicians were in the habit of speaking somewhat boastfully of the large number of hogsheads of wine consumed in the feverwards of their hospitals as the best evidence of thoroughness in treatment. Now, as alcohol accelerates cardiac action more than any other medicine, if Liebermeister's opinion as to the main cause of death in this fever be correct, the stimulant practice and its results must have been most disastrous.

Having long held the view that disturbing medication in a self-limited disease is, as a rule, pernicious,—a belief that prolonged observation has only served to deepen,—it is scarcely needful to say that I have not fallen in with the heroic methods of treating typhoid fever in vogue at different periods, but have held to the practice of using no potent medicines whatever, unless the urgency of the symptoms clearly demanded them. And by urgency is meant extremeness of functional derangement of one or more of the organs essential to life.

I may say in advance that the success of this method of treatment has been the rule, the exceptions being only two in the last eighteen years. True, I have seen in consultation with others during the above period more than a score of cases that terminated fatally: an outcome that has led me to think that the hygienic surroundings of my patients must have been more favorable than has fallen to the lot of others. Something may be due to differences of management; but, be this as it may, a method so successful as the one I have pursued may prove interesting even to those who have to deal with a more malign type of fever than obtains in this section.

At the beginning of the fever, or as soon as the diurnal ranges of temperature and the abdominal and other symptoms indicate a fever of the typhoid type, I act on the good old plan of clearing out the *primæ viæ* by means of a mild mercurial, of which none has answered better than hydrarg. cum creta, with ipecac, aromatic powder, and the potassium nitrate.

Several objects are sought to be accomplished with this combination: first, laxative and cholagogue; second, febrifuge and diaphoretic; and, third, diuretic. As soon as the atrabilious and variable excretions are succeeded by the ochrey stools characteristic of typhoid fever, and all epigastric oppression is removed, the powders are suspended, to be renewed only during the first two weeks of the attack, when the temperature during some part of the day or night rises to an unusual height. Should diarrhœa exist when first called, and the discharges be of a watery kind, bismuth is added to each powder in sufficient quantity to check the serous flow. The tongue being reasonably clean, and no marked epigastric distress, with the typical colored and odored stools, the germicide treatment is at once commenced. I am far from saying that the mercury had no such effect, but its administration is for other purposes than to antagonize the conditions favorable to microbic life. Besides, its continued use systemically is objectionable, which is far from being the case with the agent presently to be mentioned.

The presence of a typhoid microbe has been assumed, with its chief habitat in the intestinal tract, for on no other hypothesis can the propagation, development, and morbid phenomena of the fever be explained. Having met with results that surprised me from the administration of the calcium sulphide in pustular diseases, and being unable to explain its efficacy in many instances, save on the theory that it is inimical to microbic life, I was led years ago to use it in typhoid fever, and with a like end in view. For this purpose I order half a grain every three hours, day after day, until the diarrhœal, flatulent, and other enteric symptoms are relieved. This usually occurs about the twentieth day, earlier in mild cases, and later in the more severe. The sulphide is, at this stage of the disease, the main remedy, the one directed to antagonize the systemic zymosis. Some other agents are, however, nearly always needed to meet incidental perturbations. It may be bismuth and opium to counteract excessive alvine action,—a condition under the sulphide treatment not frequently met with, save from dietetic

imprudences, or it may be that the ammonium bromide with morphia is needful to procure rest and sleep; or when the temperature runs high with nervous excitement, gelseminum is temporarily resorted to. During the height of the fervescence, and especially during its diurnal exacerbations, sponging the body is made to be the chief occupation of the nurse.

The subsidence of the enteric symptoms closes what may be termed the second therapeutic stage of the disease. This, as already remarked, usually occurs about the twentieth day; but, though there is at this period under the above treatment a decided fall of the morning temperature, approaching very closely to the normal, the afternoon range continues to rise to 101°–102½° for about fourteen days more. Then the rise gradually fades away, and convalescence is fully established. The morning remission is sometimes perfect, but only for an hour or two. Often have I endeavored to render it more durable or permanent by quinine, but almost invariably without benefit, and always without success. Ever since rendering nearly moribund a very protracted subject of this fever, while distinctly convalescing, I have been distrustful of the effects of quinine. The case was as follows. For about a week after the fortieth day, a full intermission of the fever took place each morning, only to be followed diurnally in the afternoon by fresh fever, succeeded by profuse perspiration. The appetite was good, the bowels nearly normal, and the mind clear. Apprehending unpleasant cerebral effects if I gave quinine, the delirium having been continuous throughout the acme of the fever, I desired consultation as to the best method of getting my patient out of what seemed a prostrating intermittent of the hectic form. And, by the way, there was no evidence of suppuration or organic disorganization anywhere. The consultant almost scouted at my fears about giving quinine, and so, being my senior by many years, I consented to give it a trial. It was ordered in three-grain doses every three hours as soon as febrile movement of the evening subsided. At 11 A.M. next morning there was no fever, but I detected an unmeaning stare in the eye, looking blankly at the ceiling, that boded no good. I ordered the medicine discontinued. In an hour I was summoned, as the patient was violently delirious, and, though weak and skeleton-like, he could scarcely be kept in bed. The delirium lasted four days, life meanwhile trembling in the balance. Youthfulness and good nursing brought him to convalescence again, with full restoration, and he has remained a healthy man during the twenty-one years that have elapsed.

After the enteric symptoms disappear,—a result brought about at an earlier period under the sulphide than in any other,—the germicide treatment is discontinued and a purely expectant plan adopted. At first it seemed strange to me that after the subsidence of the diarrhœa, the bowels passing, in fact, into a too inactive state, the fever should yet continue. But so it is, though milder in grade and with a more decided tendency to a morning remission. During the fifteen or more days of its further continuance no attempt is made to arrest it, save through the measures that will correct functional excesses or deficiencies and promote the comfort of the patient. The bowels often need the aid of a gentle aperient, the milder the better, for too much action is very readily aroused, with a renewal of a high febrile grade and much prostration. Enemata are usually, or when no epigastric uneasiness exists, the preferable mode of securing alvine discharges. If rest and sleep are inadequate, small doses of morphia with atropia, or the elix. ammon. bromide, are prescribed.

I should remark further on the advantages of the sulphide passing constantly over the bowels during the most critical period of the fever, that I have not, since its adoption, met with that alarming complication, intestinal hemorrhage.

Such is the plan of treatment, varied, of course, to meet special indications, that has yielded results so satisfactory that of all the major fevers it causes me the least anxiety and perplexity in reference to its outcome. I am strongly impressed that the sulphide deserves a high place in securing a favorable issue. There is not, it is true, any immediate lowering of the temperature following its administration, an effect that can be attained only by an agent more potent over vital function than the disease itself. It is indisputable that it is within the power of the physician to throw the manifestations of fever into the shade, so to speak, by powerful medicines, but it is more than doubtful if such a process is at all curative. It is a well-settled

fact that the febrile pulse may be held down to or even below the normal by veratrum viride without curing the disease on which it depends, nay, even without favorably modifying it. And the question can scarcely help arising, Does not the physician impose a double duty on vital function to struggle against the disease and the toxic influence of a medicine at the same time? It is very gratifying to produce a quick, striking, and apparently beneficent effect on a dangerous malady, just as it would be to make one prostrated by a long-continued disease strong in a very few hours. It ministers very powerfully to the sense of efficiency in the physician; but it may well be questioned if the strength in the latter case is not as unreal or fictitious as the therapeutic influence is of the former. Too often for his pride must the physician instead of playing the master over the *vis medicatrix naturæ* be content to play the more lowly *rôle* of her handmaid.

These and other considerations lead to the opinion that the physician's duty in typhoid fever is largely limited to the correction of the grossest excesses and deficiencies of function, to the administration of such agents as are inimical to the increase of the febrile zymosis, and to sustain vital power. But in administering agents inimical to zymotic increase, it should be borne in mind that its genetic evolutions are a self-determined continuity; the metabolic processes require time, and sudden applications of great medical energies simply overshadow the natural processes,—go, in fact, beyond the demand,—and no sooner does the overwhelming influence disappear by elimination or reaction than the febrile disease continues, only under, if anything, less favorable auspices than before. The antizymotic or germicide should then simply keep pace with the zymotic process, controlling, when we cannot arrest, as in the case of a runaway steed, to the end a fatal outcome may be averted.

NOTE.—The calcium sulphide, being very nauseous, should not be given in powder, but in pill form, as in Warner's parvules, or, better still, in the more soluble and neat compressed granules of J. Wyeth & Bro.

THE College of Physicians gave a reception, September 8, to the Association for the Advancement of Science.

RETENTION OF THE PLACENTA.

BY V. M. REICHARD, M.D.

AS illustrating one or two important conditions, the following case will be instructive:

Mrs. M., æt. 19, primipara,.taken in labor August 2, 1882, at 7 P.M. Membranes ruptured early. Was delivered August 3, at midnight. The pains in the latter part of her labor were very severe and called forth many complaints. She ceased complaining when the head passed the vulva. The womb was found to be well contracted, but the body did not follow. By drawing on the head a seven and a half months' fœtus was delivered. With the hand on the hypogastrium the womb was noticed to be well contracted all the time. After waiting about twenty minutes, slight traction was made on the cord, but there was no advance of the placenta. Examination was made, and the os externum was found tightly closed, the cord passing on upward after being tightly constricted at that point. The hand was passed into the vagina, and patient and persevering effort was made to overcome the contraction, but with no avail. When exhausted, help was sent for. Chloroform was given, but she sank so low that it had to be stopped. The os uteri was so rigid we were unable to make the least impression upon it. Nothing was left but to wait. In eighteen hours the temperature was 103° (having risen from the normal in two hours' time), and there was an offensive grumous discharge from the vagina. She was given vaginal injections of hot carbolized water every four hours; whiskey (℥ss every two hours), with quinine (in scruple doses) to keep the temperature below 100°. Not the least impression could be made on the os until August 6. The woman was then suffering with the characteristic symptoms of septic poisoning. Deeming death from chloroform no worse than death from septicæmia, we produced complete anæsthesia, and I succeeded in passing my hand partially into the womb. The placenta was adherent to the left lateral segment. I succeeded in detaching part of it, but, owing to the numbness caused by the contractions, was unable to bring any of it away. She soon after discharged the detached portion while at stool. The treatment was kept up, and the improvement which was noticeable next morning was progressive, and on August 20 she sat up for a little while. She died of phthisis September, 1883, there having been dulness at the apices at the time of her confinement.

In the third stage of labor two points meet us as to the delivery of the placenta: *when* and *how* shall it be done?

As to the time, authorities differ as

widely as they do about the importance of the various bacilli. Some say in a short time, some in an hour, and some advise an armed expectancy. Lusk* sounds a warning note, and says an "adherent placenta may cause such retraction and contraction as to lead to its imprisonment within the uterine cavity." Such, I take it, was the cause of the condition which developed in Mrs. M.'s case. The placenta being adherent, and the uterine contractions very strong and rapid, the womb did not relax after it had once contracted. Naturally, the longer the condition was allowed to exist, the more rigid the os became. I have spoken to a number of gentlemen who advise waiting. They say they will wait an hour and then—pass the hand and deliver manually. In my opinion, a placenta which will not come away after several good contractions will not come away at all without interference; and if there are no uterine contractions the danger is so much the greater. Either there is uterine inertia or there is a spastic contraction. In either case the best plan would be to deliver the placenta at once. With either condition existing there is deadly peril to the woman. A uterine inertia may cause such hemorrhage as to compel immediate action. In a recent case I was compelled to deliver the placenta at once, even before the cord was tied, as the woman flooded dangerously. I should never trust a womb that did not relax and contract alternately. There may be no trouble, and there may be the most trouble imaginable. In any such case I should deliver the placenta at once.

Within the year, I have had three cases in which the policy of waiting was tried and resulted unsuccessfully. The placenta was retained respectively eighteen, fourteen, and four hours. In every case it had partially escaped from the womb but was caught at the internal os, so that the most of it lay in the cavity of the cervix. These cases showed me two things: that a placenta will not always be discharged spontaneously, and that a retained placenta need not be an adherent one. In any case where there were contractions and it did not come away in, at most, four good ones, I should deliver manually.

As to the manner, there is great latitude of choice. The Crédé method is given by all the teachers and books, and traction on the cord is generally condemned. Once in a good strong woman I succeeded in forcing the placenta into the bed. In every other case I failed. This has been the experience of all the gentlemen to whom I have spoken on the subject. Gentle friction over the abdomen and pressure on the fundus are useful and perhaps indispensable, but they are certainly not all that is needed *in all cases*. A *vis a tergo* is claimed to be nature's method of placental delivery. In the great majority of cases the placenta presents the margin to the os. Now, the cord is, except in rare cases, attached at or near the centre. By considering the relative position of placenta, cord, and os uteri, one can readily see how *moderate* traction will produce a *vis a tergo* at the presenting point. The opponents of traction claim that it pulls the loosened placenta down over the os and thus closes the avenue of escape. The tractions should be made only during a contraction; and any one who has ever had his hand inside a contracting womb knows how likely *moderate* traction is to pull the placenta out of line. In any case where there is delay, I should not hesitate to pass my hand and deliver. I believe that had I passed my hand at the end of five minutes in the case of Mrs. M. I should have been able to enter the womb without more trouble than in an *ordinary* hour-glass contraction. The danger of passing the hand into the uterine cavity will not be greater than that of imprisonment of the placenta therein. It is simply choosing the less of the two evils. Of course, anything like rudeness in detaching the placenta must be studiously refrained from. If the operation be done gently, there will be no great trouble. If all cases of fever following the introduction of the hand be carefully analyzed, the large majority will be found due to traumatism and to pieces of placenta remaining attached at the site of the placenta. To say examine the *placenta* in such cases is not enough. The uterine wall at the seat of placental attachment must be examined carefully to see if all of the mass has been detached.

FAIR PLAY, MARYLAND, July 28, 1884.

* Art and Science of Midwifery, p. 429.

THE INTERNATIONAL MEDICAL CONGRESS at Copenhagen, before adjournment, accepted the invitation of the American Medical Association to hold its next meeting at Washington, D.C., in 1887.

THERAPEUTICS AND MATERIA MEDICA.

BORATE OF QUININE.

AMONG the new salts of quinine are some that deserve a trial, being cheaper than the officinal salts and more easy of administration. The borate is an amorphous, yellowish powder, of a mild, not very bitter taste. It is much more soluble than the sulphate, dissolving, it is said, in an equal bulk of water. In some experiments conducted by Drs. Finkler and Prior, of Bonn (*Deutsches Med. Wochenschrift*), it was found that it agreed very well even with irritable stomachs, and produced no unfavorable effects upon digestion, even after several weeks' administration. It had the decided antithermic powers of the officinal salts, but caused less nervous depression, and tinnitus aurium was not noticed. It was especially recommended that when given in large doses (varying from eight to sixteen grains every hour or half-hour until forty-eight grains were swallowed) it should be well diluted, and accompanied by a little brandy. Borate of quinine seems especially adapted for treatment of children's diseases, as it is very soluble, and, on account of its mild taste, is easily administered.

TANNATE OF CANNABIN.

Experience has served to support still further the claims of this drug as a pure hypnotic. Dr. Trohmüller (*Allgem. Med.-Chir. Zeitung*) reports excellent results from its use in insomnia of phthisis and various other diseases. He considers it a powerful rival to opium (in doses of one to five grains), as it has no effect upon the secretions and is less likely to cause toxic effects.

ANTIPYRINE.

Favorable notices have appeared lately in the journals upon the new derivative of chinoline, known as antipyrine, discovered by Dr. Knorr,* of Erlangen, who has kept its method of manufacture a secret for the present and patented it, but promises a future communication on the subject. It is said, also, to be made synthetically by the reaction of acetic ether on aniline.

The drug is in the form of a white crystalline powder, very soluble in water (one to three), with a feeble odor, and a slightly bitter taste easily covered by some aromatic water or wine. Professor Filehne, having given the new remedy a trial in various febrile affections, acute and chronic, found that by doses of five or six grammes a high temperature was quickly reduced to the normal. These doses were generally well borne, but occasionally vomiting occurred, the precaution being taken to give the drug in ten-gramme doses each hour until the desired amount had been administered. The duration of the effect is variable, but usually the temperature does not again increase until seven or nine hours afterwards, and sometimes the result is prolonged for eighteen or twenty hours. The temperature commences to fall within half an hour after the first dose, and its maximum effect is attained from three to five hours afterwards. In children, debilitated patients, and phthisical cases, it is advised to give smaller doses. The frequency of the pulse decreases at the same time with the temperature, but without following any rigid proportion. No albumen has been found in the urine, nor has this fluid shown any marked change of color under its use. Respiration also appears to be uninfluenced by it.

Subsequent experiments made by Drs. May, of Cologne, and Rank, of Stuttgart, have confirmed the preceding observations as to the antipyretic action of the new drug. In order to avoid vomiting, which occasionally will occur, Dr. Rank has tried hypodermic injections of the drug: the solubility in cold water (one to three) requiring too large doses for hypodermic injections, he used warm water, fifty centigrammes of which will dissolve one gramme without precipitation upon cooling, the solution remaining for a week perfectly limpid. Used in this way, antipyrine no longer caused vomiting, while at the same time producing the usual effect upon the temperature. In not a single case was there any accident to report, not the least inflammatory reaction, and no abscesses.

Dr. Rapin reports,† however, that Erb tried the hypodermic method, but gave it up on account of the severe pain caused by these injections: he did this the more willingly because the remedy rarely disagrees with the stomach.

From the results obtained in Erb's cases, it was concluded by Dr. Rapin‡ that anti-

* Zeitschrift für Klinische Medizin, Bd. vii. Heft 6.

† Revue Médicale de la Suisse Romande, No. 7, 1884.
‡ Loc. cit.

pyrine is superior in its antipyretic action to all the agents ordinarily given to reduce combustion, such as quinine, salicylic acid, kairine, etc.; the results obtained from its use are more complete, and the absence of all evil effects after its ingestion constitutes an additional advantage. Finally, its price is much lower than quinine; but this advantage is merely a nominal one at present, because of the larger quantity required to produce the same effect.

The mode of action of antipyrine is in all probability very analogous to that of kairine, which has been found by Mr. Loyd to reduce greatly the amount of gases taken up by the blood, and particularly of oxygen, the spectroscope showing attenuation and disappearance of the bands of oxyhæmoglobin. Should this prove to be true as applied to antipyrine, it would tend to impair its value in typhoid and other low fevers which tend in a marked degree to destroy the blood-corpuscles. M. Quinquand* found that the amount of gas in the blood is not materially affected by small doses of kairine, but it is by large doses. Since these remedies possess some of the properties of quinine, it is possible that they may also exert a toxic action upon the heart, which might render them dangerous in cases of depression of the vital powers, when given in large doses.

SALICYLIC ACID IN THE TREATMENT OF CEREBRO-SPINAL MENINGITIS.

Having been impressed, during an epidemic of cerebro-spinal meningitis, with the idea that an analogy existed between that disease and acute rheumatism, Dr. Ramsey† was led to use salicylic acid in its treatment. During the epidemic mentioned, eleven cases of cerebro-spinal meningitis occurred in his practice. Four of them were treated with ergot, potassium bromide, chloral, aconite, quinine sulphate, morphine sulphate, and numerous other remedies: the result was three deaths and one recovery. The seven other cases were treated with salicylic acid, with the result of five recoveries and but two deaths. They were all violent cases, and possessed the distressing characteristics of the disease in full. He says that salicylic acid will control the migratory pains of head, elbow, and knee, and reduce the temperature, in most, if not all, cases of cerebro-spinal meningitis, and that in every case in which he prescribed it he perceived great benefit in the condition of the patients from the beginning of its use.

* Progrès Médical, May 10, 1884.
† Western Med. Reporter, March, 1884.

SOME THERAPEUTIC USES OF LOBELIA.

In a recent communication to the Société de Thérapeutique, Dr. Fournier‡ states that he has successfully used the tincture of *Lobelia inflata*, in doses of ♏xv–xxx, in several cases of cardiac dyspnœa and in two cases of pulmonary congestion, and with good results in the third stage of phthisis. As lobelia alone is nauseating, it should be combined with polygala. Huchard uses the following formula, which is well borne by his patients:

℞ Potassii iodidi, ʒij;
Tinct. lobeliæ,
Tinct. polygalæ, āā fʒij;
Extract. opii, gr. iss;
Aquam destillatam ad fʒviij. M.

Dose, a tablespoonful morning and evening in chronic bronchitis and asthma.

M. C. Paul has used lobelia and iodide of potassium with success in catarrhal asthma, giving ♏xx of tincture of lobelia to gr. viii of iodide of potassium.

ASCLEPIAS INCARNATA.

Dr. J. Hosack Fraser,‡ after three months' clinical trial of the American diuretic drug, *Asclepias incarnata*, or white Indian hemp, thus summarizes its physiological actions:

1. *On the Circulatory System.*—It stimulates the cardiac contractions and increases the blood-pressure. For two hours after the administration of forty minims of the liquid extract, there is an increase in the strength and volume of the pulse. It steadies the cardiac contractions, and assists in restoring the rhythm of the pulse when any irregularity exists. The stage of stimulation is sometimes followed by slight depression of the circulation, and, in order to maintain its stimulating effects, it should be repeated at intervals of three hours.

2. *On the Urinary System.*—It is a speedy, potent, and reliable diuretic. He has found it to succeed admirably in cases where the best known diuretics had entirely and signally failed. It is invaluable in all forms of dropsy, but especially so in dropsy of cardiac and renal origin. He believes that it acts on the kidneys in precisely the same manner as digitalis. One

‡ Practitioner. ‡ Ibid.

great advantage which it possesses is that it does not cause any gastro-intestinal disturbance: on the contrary, it frequently acts as a stomachic tonic.

The root is the part which is used in medicine, and is said to possess all the medicinal properties of the plant. It may be administered in the form either of an infusion or of a fluid extract. The latter preparation should be given in ʒss to ʒi doses every three hours. Smaller doses are useless. F. W.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL COLLEGE OF MEDICINE, LOUISVILLE.

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Reported by ALLEN KELCH, M.D.

SYMBLEPHARON FROM CAUSTIC.

A. N., æt. 8 years, residence, Jeffersonville, Indiana, in June, 1883, had the misfortune to get some concentrated lye into the left eye, between the lower lid and the ball. The extent of the burn corresponded to the surface of the lower lid, and penetrated to the depth of the entire conjunctival covering of the corresponding surface of the ball. The eye was bandaged by the skilful hand of a specialist, who changed the dressing daily and instilled atropia drops. This, of course, subdued the pain and at the same time secured union of the lid to the denuded surface of the ball. In the central part the point of attachment took place at a point just above the pupillary margin, fully covering the anterior pole of the cornea. The eye was drawn down by its attachment to the lining of the lower lid, the inferior cul-de-sac being completely obliterated; motion of the ball was correspondingly limited. The tension of the cicatrix was such as to permit slight motion of that part of the lid attached to the cornea. On the 23d of April, 1884, the boy was chloroformed at Saint Joseph's Infirmary, and, with the assistance of Dr. Leo Harrison, of Paris, Texas, I proceeded carefully to dissect off the lid from the cornea, and then, dividing the ocular conjunctiva at its line of attachment on each side to the adherent lid, cut down to where the inferior retrotarsal fold should lie, dissected off the adherent lid from its attachments to the sclerotica, to which it was firmly united; reaching the point of attachment of the tendon of the inferior rectus muscle, the ocular fascia was for the first time brought to view. Having dissected off the lower lid as far down as I desired, I divided with curved scissors the conjunctiva at its point of attachment with the cornea around to the summit of the cornea, first on the outer side, then upon the nasal side in the same manner, to a point about one line from the termination to the point of incision with the opposite side. With the scissors I then cut obliquely upward, so as to leave a triangular flap or portion of ocular conjunctiva with its apex attached to the cornea and its base corresponding to the retrotarsal fold. Dissecting this up carefully upon each side, I was provided with quite elastic flaps of sound ocular conjunctiva, which were drawn down and stitched together in a vertical line from the inferior corneal margin down to the inferior sulcus. I then passed at the most inferior portion a suture through each of the two flaps of conjunctiva down through the deep orbital fascia, so as to secure a mucous surface in contact with the lining of the lid, throughout the whole extent from the position where the inferior cul-de-sac should lie quite up to the corneal margin, allowing the raw surfaces upon the lateral and superior portions of the globe to heal by granulation. The eye was not bandaged, but treated by almost constant ablutions of cold water. But little swelling occurred in the lower lid, the motility of the globe was at once and permanently restored, no disposition to abnormal adhesions was renewed, and on the 28th of April, the wound having healed throughout, the stitches all having come away, and the eye being entirely free from irritation, the patient was allowed to go home, with instructions to report at the end of a week.

On the 12th of May I saw him. The eye had recovered, the ocular conjunctiva having been renewed over the surface of the globe. The sclerotica was almost as distinctly and clearly white in this as in the other eye, which was perfectly sound. The cornea showed no sign of opacity to the naked eye, yet oblique illumination clearly disclosed the original point of attachment. Had the destruction of corneal tissue extended beyond the anterior elastic layer, no such good result as this

could have been obtained. In the beginning the corneal wound being limited to the epithelium allowed the denuded lower lid to attach directly to the surface of the anterior elastic layer, and in dissecting away the abnormally adherent lid the anterior elastic layer of the cornea was removed. The opacity resulting from wounds penetrating to this depth only is usually very slight, but whenever the proper substance of the cornea is invaded, then the opacity resulting from the disturbed relation of the connective-tissue laminæ and of the lymphatic system is such that new connective tissue can never be depended upon to assume the uniform direction and relation of fibre necessary to the formation of a transparent structure. The chief point to be insisted upon in all wounds of the eye, whether by caustic contusions or the tearing away of the surface-tissues, is to treat them without closing the lids. There can be little doubt that the damage in this case was chiefly due to the careful and persistent efforts to keep the lids closed.

In the case of a plasterer who, a month ago, had the misfortune to get caustic lime in his eye, a large quantity of it being impacted between the lower lid and the ball, extensive loss of substance occurred from the violent caustic action of the lime. It was all cleaned out as carefully as possible with a little brush of cotton-wool rolled upon the end of a probe and dipped in vinegar. After this a quantity of pure vaseline was placed between the lid and the ball, and a solution of hydrobromate of homatropia (one grain to the drachm of water) was instilled every hour. The patient was directed to keep his eye open and bathe it freely in cold water every hour, then to instil the homatropia, after which the vaseline was to be applied. He wore smoked coquilles to protect the eyes from the light, and was directed not to confine himself to the house. He reported at the office daily for a week, then every other day, and in two weeks from the time of the injury the eye was entirely well. There was still a pink discoloration of the inferior half of the globe, the cornea, however, being quite clear. The inferior cul-de-sac was shortened considerably, though not enough to produce discomfort or any external sign of the extent of the injury which he had suffered. The almost perfect transparency of cornea and the absence of symblepharon may fairly be attributed to the course of treatment pursued. Surely the extent of the injury here inflicted was quite as great, both as to the depth to which the caustic penetrated and the surface it occupied. These two cases, coming as they do together and representing the antipodes of surgical treatment, offer results sufficiently striking to demand the general attention of all practitioners who are called upon to treat injuries of the eye.

TRANSLATIONS.

A FRENCH CRITICISM ON KOCH'S CHOLERA-BACILLUS.—At the meeting of the Académie de Médecine, August 5, a report was read by M. Strauss for himself and M. Roux, containing a summary of the labors of the French Commission in Egypt and in Toulon. It declared that the disease in France was identical in its morbid anatomy with that in Egypt. With regard to the supposed specific organism giving rise to cholera, it stated that in the intestinal mucous membrane there were found a variety of forms of bacteria, especially when the case was prolonged; but in the very rapid cases these organisms are much less numerous, and in the most acute *it is impossible to detect their presence.* Following the method of Weigert, adopted by Koch, the Commission declared that "in a goodly number of cases of cholera the micro-organisms cannot be found in the intestinal tunics." The comma-bacillus which Geheimrath Koch considered as being the cause of cholera was also recognized by Messieurs Strauss and Roux, though it was not constant, and was generally less numerous than other micro-organisms. Conceding to these bacilli *en virgule* an important *rôle* in cholera, at the same time they claim that other organisms are equally present, and sometimes in numbers so large that neither seems to preponderate. It is also claimed that these organisms are not peculiar to cholera, but have been met with in dysentery, as reported by Malassez. In leucorrhœa, and in the discharge from a case of uterine epithelioma, M. Strauss had also found microbes similar to those mentioned. The reporters conclude with the statement that if the comma-bacillus be the true cause of cholera it inhabits only the intestinal con-

tents, and in the most rapid cases it does not invade, to any appreciable extent, the mucous membrane. It is necessary, then, to admit that, in order to produce effects so rapid and so intense, it acts by secreting a soluble ferment, a ptomaïne, or a poison of some kind, which, being absorbed, provokes the symptoms of cholera. It is of interest that pure cultures should be made and examined for such poison; it would also be important to ascertain if the comma-bacillus occurs in cholera nostras. The peculiar and extremely minute particles found in the blood of cholera patients in Egypt by the French Commission were also detected in the blood of patients at Toulon: they were attributed to a special alteration of the hæmoglobin. —*Le Progrès Médical*, No. 32.

THE EXPERIMENTAL PRODUCTION OF TYPHOID FEVER.—Dr. Luigi Petrone reports the following interesting observation in *Lo Sperimentale* (April, 1884). A patient, 22 years of age, suffering with typhoid fever, towards the end of the first week had a temperature of 40.3° C. (104.5° F.), when an ounce of blood was taken by a leech. Under microscopical examination the reporter found very few spores, a few short bacilli, many spiral forms and threads, joined together in bundles, all of which forms took staining remarkably well with Weigert's fluid. The next day the blood was injected into two dogs by hypodermic injection. By the next day there was increase of temperature, thirst, and muscular prostration, which were soon associated with anorexia, diarrhœa, tenderness of the abdomen, particularly in the right iliac region, swelling of the spleen, and tympanites. Twelve days after the injection had been made, both animals succumbed. The autopsy revealed recent swelling of the spleen, enlargement of the mesenteric glands, which were decidedly infiltrated; the solitary follicles and Peyer's gland were swollen, and in the lower part of the ileum the mucous membrane was ulcerated. The blood contained micrococci, bacilli, and threads. In fresh preparations of the liver, spleen, large bowel, and Peyer's glands, there were seen infiltrations of bacilli and spores, with spiral-formed threads.

From each of the dogs about fifteen grammes of blood were drawn and successfully injected into two other dogs, and autopsies of the fatal cases showed a result identical with the foregoing.

Recalling the experiments of Klebs and Tizzoni, the reporter draws the following conclusions from his experiments:

1. The blood of typhoid patients (*typhus-kranker*) is septic, and is capable of infecting animals into which it has been introduced by injection.

2. The infection succeeds immediately in dogs, by means of the blood, without any prodromic symptoms.

3. Clinically, the infection reveals itself in dogs by high, continued, remitting fever, and through a typhoid condition, as it is developed in man.

4. The anatomical alterations found in the experimentally-excited typhoid were developed and maintained by means of small parasites, which were present in the form of spores, bacilli, and a thread-like mycelium.—*Deutsche Medizinal-Zeitung.*

EXAMINATION OF BLOOD FOR MICRO-ORGANISMS.—After a series of carefully-conducted examinations of the blood of guinea-pigs, dogs, sheep, and calves, Dr. F. Zahn announces that the blood of healthy animals is free from putrefaction-germs.—*Virchow's Archiv.*

EXTRACTUM STIGMATUM MAIDIS IN HEART-AFFECTIONS.—Thus far the extract of maize stigmata has been used only to a small extent in this country, and chiefly for the relief of irritable bladder. Dupont reports good effects from the use of the solid extract in doses never exceeding three grammes, given before eating, three times daily. Generally, about one-half of this amount, given in syrup and water, rapidly produced a diuretic effect. The amount of water sometimes increases to a marked degree, an excretion of five hundred grammes being increased to as much as fifteen hundred to two thousand grammes. He considers it especially valuable in œdema with heart-failure. It appeared to be well tolerated in all the cases in which he had employed it. Its action on the heart resembles that of digitalis, but less so than it does that of convallaria. He recommends a combination of the drug with bromide of potassium and iodide of potassium, with which it may be given in milk.—*Centralblatt für die Gesammte Therapie.* [We have found the syrup a pleasant and efficient form in which to administer this remedy.—ED.]

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 20, 1884.

EDITORIAL.

PUBLISHERS' NOTICE.

WITH the issue for October 4, 1884, THE PHILADELPHIA MEDICAL TIMES will commence a new volume and will enter upon its fifteenth year of continuous publication. Having attained to twice the average life-period of American medical journals, the publishers are encouraged to believe that THE TIMES has been found by its patrons to possess qualities that commend it to favor quite above the average of its class. In consequence of the liberal support which it has received from the profession, it has been enlarged as circumstances seemed to warrant it; and, indeed, the volume for the year now about to close contains a greater number of pages than any which has preceded it. This increase in the size has been rendered necessary principally by the greater number of original articles secured for its pages (many being illustrated), which have enabled the editor to present an exceptionally complete variety in the department of *Original Communications.*

In addition to the Clinical Lectures and Hospital Notes, which contain much practical information not to be found elsewhere, the volumes of THE TIMES contain many interesting medical society reports and accounts of meetings of National Associations, while reports of the recent advances in medical science are given by a corps of collaborateurs possessing especial qualifications for the work; these reviews being supplemented by short translations from journals in foreign languages and abstracts from current English and American periodicals. Special correspondents have also contributed much to the interest and value of THE TIMES, notably Dr. J. Milner Fothergill, of London, whose monthly letters have become a prominent feature.

Intending to retain all the desirable features that have characterized THE TIMES in the past, and in future to embody others as opportunity may offer, the publishers have the pleasure of announcing that, in accordance with the general tendency towards a reduction in prices, the subscription price for the coming year will be reduced to Two Dollars ($2.00), beginning with the first number of the new volume, October 4, 1884, without, however, reducing in any way the quantity or the quality of material furnished to its readers. It is believed that this reduction will be acceptable to its subscribers, and will make the PHILADELPHIA MEDICAL TIMES by far the cheapest first-class medical journal published.

HETEROTAXIA.

CONGENITAL transposition of the organs of the body is an anomaly of development less infrequent perhaps than we have been in the habit of thinking it. It is of interest theoretically on account of our absolute ignorance of the way in which it comes to pass. Dareste's view that it results from the turning of the embryo-heart towards the left instead of towards the right, which is normal, and the suggestion of Bischoff that it is due to a change in the normal position of the umbilical vesicle and the allantois, so that the former turns to the left and the latter to the right, are mere suggestions, and scarcely amount to explanations even were they proved. This condition is of interest practically by reason of the effect it may exert in obscuring diagnosis, especially in cases of actual disease of the thoracic organs seen for the first time. We well remember the perplexity that arose when, years ago, Schrötter, in Vienna, used slyly to present to his ward classes in physical diagnosis a case of

transpositio viscerum. Dr. Alfred Richter, of Dalldorf, recently demonstrated the specimens of a case of this kind before the Medicinische Gesellschaft in Berlin, and, in connection therewith, presented some facts of a statistical nature that will not be without interest to our readers.

He had collected (including the case in question) forty instances of this malformation, most of which were fully described, a few merely referred to. Of these, nineteen were males, sixteen females, and in five the sex was not given. Of the forty examples, twenty-four were examined after death,—eight males, eleven females, and the five whose sex was not given. In two of the forty cases the age was not recorded, nine died shortly after birth, twenty-nine reached a more or less advanced age. The average age of twenty-two cases in whom the age was stated was thirty-five years. Of the twenty-four cases examined after death, in two the age was not stated, nine were children, thirteen were adults, and of these thirteen in nine the age was known and the average was thirty-eight years.

Of the nine who died shortly after birth, in two death resulted from other malformations of the heart, in two from other malformations elsewhere, in two of disease, and in three the cause of death was not stated.

With reference to the intellectual development, of the twenty-nine adults it was said in one instance that the development had been tardy; in one that there were convulsions followed by unconsciousness and headache, and on post-mortem examination an apoplectic clot; one case was that of a murderer, one that of a female thief. In the case in question the mental condition had been fairly good until acute delirium arose in consequence of syphilis of the cranial bones. Finally, in twenty-four of the twenty-nine adults no mention was made of abnormal mental conditions.

Left-handedness was observed in a single case only. This fact is of no little interest. It would be easy to conclude *a priori* that the speech-centre might be situated in these cases in the region of the island of Reil on the *right* side.

Of the twenty-four cases examined after death, seventeen were instances of complete transposition of the organs, in five the heterotaxia was incomplete, and in two there was no definite statement on this point; six (of whom four were children) had serious cardiac lesions; in three the heart was stated to be sound, and in fifteen there was no note of the state of the heart.

With reference to the hereditary transmission of this malformation nothing has been determined. In seven of the above forty cases the subject was investigated without result; in thirty-three it was not touched upon.

Dr. Richter concludes that, in the absence of special heart-complications, heterotaxia is a morphological variation which exercises no unfavorable influence upon either health or length of life.

The occurrence of transposition of the heart while the other organs retain their natural positions is extremely rare: nevertheless Breschet saw four instances of this malposition in newly-born children, Otto refers to similar cases, Pope (*Lancet*, July 8, 1882) describes one in which the heart's apex was simply turned to the right instead of to the left, without other change in the development of the organs, and Bramwell narrates a case, which was not examined after death.

THE NEW PROFESSOR AT JEFFERSON MEDICAL COLLEGE.—The appointment of Prof. Mallet to the vacant chair of Chemistry in the faculty of the Jefferson Medical College is one which will add strength to the school and will do much towards retaining for this city its old-time prestige as a medical centre. A graduate of Göttingen (Ph.D.), of the University of Louisiana (M.D.), and of William and Mary (LL.D.), a member of various scientific societies, and, until recently, Professor of Chemistry in the University of Virginia, Dr. Mallet brings culture, high reputation, and distinguished ability to his new position.

PROCEEDINGS OF SOCIETIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

THE Eighth Annual Meeting convened at Highland Falls, New York, on Wednesday, August 27, and adjourned on August 29, holding two daily sessions, except upon the last day.

The President, Dr. R. W. Taylor, of New York, called the meeting to order on the morning of the 27th, and, after receiving the report of the Council with regard to the selection of the place of meeting and some other items of business, the Association listened to a brief introductory address by the President, in which, after extending a welcome to those in attendance, the speaker reviewed the work of the Association and congratulated the members upon its high standing in its special department. The meeting being formally opened for scientific work, Dr. Hardaway, of St. Louis, reported a remarkable case of xanthoma multiplex. The patient, 44 years of age, had been well until thirty, with the exception of hyperidrosis of the feet, which was an old complaint. His work requiring him to stand over a hot fire for eight hours a day, he had been subject also to general and sometimes excessive sweating, which finally gave way to burning and itching. Two years later, he noticed a yellow discoloration on the body and his health became poor, and when he came under Dr. Hardaway's observation, some years later, his right side was bronzed, his left side yellow. The itching, which was sometimes intolerable, had existed for twelve years. His urine contained a trace of sugar, but nothing else abnormal. The liver was much enlarged downward and laterally, and appeared to be thickened and nodulated. The skin was bronzed and almost black in some places; the conjunctivæ were also stained. On the eyelids, lips, and chin were numerous well-marked patches of xanthoma. Around the elbows, on the wrists, the backs of the hands, and the feet, also on the buttocks, thighs, and legs, were a large number of xanthoma-tubercles, varying from a pin-head size up to that of a hickory-nut, some being umbilicated, and a few on the face perforated by hairs. The palms of the hands also presented many small tubercles and bands of yellow infiltrated tissue. A number of subcutaneous tumors were also found, and a distinct bony node was noticed over the front of the head of each tibia. The body was nearly free from tubercles, but a few existed on the right side over the ninth and tenth ribs, having the exact distribution of a herpes zoster. The genitals were involved, notably the glans penis and scrotum; and a few small patches of yellow discolored tissue were found in the mouth, on the mucous membrane of the inner side of the cheeks and the soft palate, and also of the larynx and trachea. The lesions of the skin did not cause annoyance, except that the tumors were the site of itching which involved the white skin.

The striking points in the case were the antecedent bronzing before the tumors appeared, their symmetrical character except on the trunk, and the peculiar distribution on the chest, simulating herpes zoster and suggesting nervous origin. The subcutaneous tumors and bony nodes were also of great interest.

From a study of this and other cases, and a review of the literature of the subject, he was inclined to look upon xanthoma as a diathetic affection, considering the connection with derangement of the liver as entirely secondary. He believed that when jaundice occurred it was due to a deposition of tubercles in the liver. He was also inclined to believe that in persons with what he called the xanthomatous diathesis, any prolonged irritation would cause a development of tubercles at points subjected to chafing, as over the articulations, on the eyelids, etc. In concluding, he expressed the opinion that the lesions in the chest-wall might be due to an abortive attack of herpes zoster.

In the discussion which followed the paper, the diathetic explanation of the origin of the disease was generally discredited. The concurrence of jaundice was considered exceptional. Dr. Duhring noticed that pruritus began with the jaundice and antedated the xanthoma. He had also been interested in tracing a possible relationship between growths of this kind and those of a different character occurring in urticaria pigmentosa; some of the latter were true urticaria, with lesions of marked persistency, others seemed to partake of the xanthomatous nature, with pruritus and pigmentation, and the formation of papules and tubercles, with some of the characteristics of urticaria. The latter he considered identical with what Tilbury Fox had described and figured as "xanthelasmoidea."

Dr. Hardaway, in conclusion, said that the osseous lesions and subcutaneous nodules were of great interest, and were involved in obscurity. He had found only one writer, Calcott Fox, who spoke of similar alteration of the bones in one case, which he attributed to gout or rheumatism.

Dr. J. Nevins Hyde, of Chicago, read a communication entitled "A Clinical Study of Lupus Erythematosus as it affects the Hand." Four patients coming under the observation of the lecturer were the basis of his remarks. Three were females, one a male. In each the disease appeared in discoid variety upon one hand; one only had facial lesions, coming on some years later than the full development of the disease on the hand. In several of the cases the fingers were involved in the disease; in one the palm was invaded. From a review of the published cases, which had been all recorded by English or American ob-

servers, the lecturer observed that the age of the patients was usually over twenty years, and that about two-thirds were women, as also noticed by Kaposi.

In the discussion several members mentioned similar cases in which lupus appeared on the hands alone, the patients being apparently otherwise well and free from diathetic taint.

Dr. Sherwell presented a suggestion for the treatment of acne and acne rosacea in the male subject, in which he referred to the observations of Drs. Piffard and Hyde upon the relations of disorder of the sexual organs to acne, and advised examination into the condition of the urethra in these diseases. The lecturer spoke of chronic congestion and hyperæsthesia of the urethra as coexisting in two cases with acne, which, after treatment by the introduction of cold steel bougies, became entirely relieved of their eruption, which before had resisted treatment.

"A Case of Unilateral Chromidrosis (?)" was reported by Dr. James C. White. The patient, a workman in a sugar-refinery, reported that his shirt had been stained a yellow color for several months on the left side from the shoulder all the way down. There had not been excessive sweating, nor was the discoloration found elsewhere. The coloring-matter was an oily substance, readily extracted by ether, and was not due to the presence of bacteria. Local treatment promptly relieved the disorder, which had not returned four months later.

Several similar cases were mentioned during the discussion, and the condition was regarded as genuine chromidrosis. Dr. White said that he had been uncertain whether the coloring-matter had come from the sweat-glands or the sebaceous follicles, and had accordingly queried the title.

Dr. White also reported two cases of supposed arsenical dermatitis, based upon some cutaneous manifestations in a mother and newborn child, and inquired as to the possible connection between wall-paper containing arsenical pigment and the appearance of pityriasis maculata and circinata in the mother. In the infant the symptoms were those of eczema and intertrigo.

In the discussion Dr. Sherwell mentioned a case of bullous eruption of obscure cause, now under treatment, which might be due to some agent similar to that cited by the lecturer.

Dr. White said that the cases of Dr. Sherwell might be due to mosquito-bites. He had seen cases in which the lesions were nearly as large as pigeons' eggs. They occur occasionally in winter, but of course were most common in summer.

The second day's proceedings were opened by a paper by Dr. L. A. Duhring, entitled "Dermatitis Herpetiformis and its Relations to Impetigo Herpetiformis," which was essentially a synopsis of the essay read by him at the last meeting of the American Medical Association. He held that the disorder described by Hebra as impetigo herpetiformis, which usually occurs during pregnancy and is often fatal, and also cases called variously by Hebra pemphigus pruriginosus, herpes chronicus, herpes gestationis, etc., were all identical with dermatitis herpetiformis.

The paper led to a general discussion, in which the rarity and obscurity of the affections were referred to, and the view was generally expressed that many cases hitherto described under various names might with propriety be comprised in the class considered by the lecturer. Dr. Piffard did not consider them allied to herpes, taking zoster as an example. Dr. White suggested *multiform dermatitis* as being more strictly applicable, and did not adopt the view of the speaker that the disease was usually of neurotic origin. Dr. Sherwell thought that some of Hebra's cases were septic. In conclusion, Dr. Duhring defended the qualifying term herpetiform, because in most of the cases there was from the first a distinctly herpetic character. The paper was based upon observations of sixteen or seventeen cases which had been for several years under his observation. He insisted that the difference between his cases and those of Hebra was simply one of degree, and not essential.

The evening session was devoted to the discussion of the report of the Committee on Nomenclature.

The third day's session was opened by the President at the usual hour.

Dr. Stelwagon, of Philadelphia, contributed two papers, one on a "Case of Late Cutaneous Syphilis (Acneiform Syphiloderm of the Nose), illustrating the Occasional Necessity for Large Doses of the Iodide," and one on a "Case of Vitiligo involving the Whole Surface." The papers were read by the Secretary in the absence of the author.

Dr. Hardaway, of St. Louis, presented photographs and read the description of a very interesting case of "General Idiopathic Atrophy of the Skin." The patient was 23 years of age, and blind from corneal opacities, necrosis of conjunctiva, and symblepharon. The skin of the face had a rosaceous aspect, being thickened and red; there were scars around the lips, which were also thick and strumous in appearance. The body-surface was checkered and shining, from the presence of many pigmented spots of various sizes, interspersed with atrophic patches, over which the skin was tense and glistening and could be pinched up with difficulty. Dilated or tortuous vessels were not observed. The skin and muscles of his hands also presented a similar condition of atrophy, and the fingers were webbed and adherent for about half their length.

Dr. Robinson, of New York, read a paper

on "Miliaria and Sudamina." After reviewing the conflicting opinions as to the nature of the affections which have been designated by different authors as miliaria alba and rubra, sudamina, eczema solare, and lichen tropicus, he concluded from original microscopical studies that in reality miliaria alba and rubra are forms of eczema, due to local irritation by clothing and acid sweat. He therefore advocated that these terms should be dropped. The disease known as sudamina, he said, was not inflammatory, but was an affection of the sweat-glands, the result of hyperidrosis.

The discussion revealed a diversity of opinion upon the conclusion of the lecture. Drs. Hardaway and Duhring thought eczema a distinct affection from miliaria, chiefly on account of the difference in the clinical history, one being acute and self-limited, the other more or less chronic. Drs. Hyde and White endorsed the view expressed by Dr. Robinson, that miliaria was but an accident of eczema.

The President, Dr. R. W. Taylor, read a description of a "Peculiar Ringed Affection of the Glans and Prepuce." He had seen three cases of the disease in ten years. The patients were free from syphilis, and were from forty to forty-five years of age. Marked neurotic outbreaks ushered in the appearance of this condition. One had an attack of orchi-epididymitis, and recurring attacks of balano-posthitis, and in another a chancroid ulcer had been roughly cauterized, which had led to long-continued swelling and inflammation. In each of the cases the disease appeared in the form of rings covered with thin firmly-adhering scales, underlying which was apparently healthy mucous membrane. The lesions were not progressive, but were lasting. They were accompanied by disagreeable sensations, but not by pain. Recognizing the neurotic element, arsenic was given in increasing doses with success. The affection was neither syphilis, tinea circinata, nor psoriasis.

No agreement was attained as to the pathology of these cases in the discussion. Dr. Hardaway had met with a case in a patient who had had psoriasis, but the lesion on the penis was not like that disease. Dr. Wigglesworth had had a case of leucoplakia buccalis, which, after recovering from that disease, had developed a lesion similar to that described in the paper, which had finally disappeared after the application of carbolic acid. Dr. Duhring had seen cases in which the gross appearances and the course of the affection had suggested to his mind the idea of lupus erythematosus. He was inclined to think that the cases reported by the President were of this character.

Dr. Taylor was confident that the cases he had reported were not instances of lupus erythematosus; they did not develop from papules; there were no recurring attacks of hyperæmia; the patches were not indurated; and there was no cicatrization.

The election for new members resulted as follows:

Honorary Member.—Mr. Jonathan Hutchinson, of London, England.

Active Members.—Drs. George H. Tilden, of Boston; A. R. Morrison, of Baltimore; T. C. Curtis, of Albany; and L. N. Denslow, of Minneapolis.

The following were elected officers for the ensuing year:

President.—W. A. Hardaway, M.D., of St. Louis.

Vice-Presidents.—J. C. Graham, M.D., of Toronto, Canada; A. Van Harlingen, M.D., of Philadelphia.

Secretary.—W. T. Alexander, M.D., of New York.

Treasurer.—George H. Rohé, M.D., of Baltimore.

The date and place of meeting were left to the choice of the Council.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a meeting held June 18, 1884, John B. Roberts, M.D., read a paper entitled

THE DEMAND FOR EARLY EXPLORATORY TREPHINING IN DEPRESSED FRACTURES OF THE SKULL.

In using the term trephining I apply it to all methods of removing portions of the cranial wall, whether by the trephine, saw, burr of the surgical engine, gouge, or cutting-forceps.

From observation, experience, and considerable acquaintance with the literature of the subject, I am convinced that surgeons are induced to decline or postpone the operation of trephining because of a mistaken idea of its serious nature and a misunderstanding of the reasons for its adoption.

The frequency with which successful trephining was done in past centuries without the benefit of our improved methods and instruments, and the infrequency of death or serious symptoms from the operation itself at the present day, convince me that, though a capital operation, it is not one having in it many elements of danger. That many deaths occur after trephining is admitted. Such fatal results must often occur, for injury to the skull-bones is usually and almost necessarily coincident with disturbance or actual lesion of the brain or its membranes. I believe that more deaths are attributable to non-performance or delay in resorting to the performance of trephining than to its adoption. It behooves those who greatly limit the application of the operation to prove, by citation of cases, that a fatal issue has been induced by

the procedure itself in a sufficient number of instances to throw the operation into the class called dangerous. To show merely that many cases of serious skull-injury recover without trephining is not sufficient.

Much controversy on this subject would be avoided if the advocates and the opponents of an extended use of trephining would clearly formulate their opinions as to the theory upon which the operation is performed. In my opinion, trephining should be regarded in the light of an exploratory rather than a therapeutic procedure. I incise the scalp in closed fractures of the skull, not because the incision cures, but because it tells me the condition of the bone, without which knowledge I am unable to treat the patient rationally. The uncertainty of the lesion is, in my opinion, more dangerous to health and life than the conversion of a closed into an open fracture of the skull, because the observation of the profession teaches that open cranial fractures do not resemble in fatality similar open fractures of long bones. In truth, I would be willing to make a closed fracture of the thigh or leg an open one, if it were otherwise impossible to replace fragments which were threatening life. If I but learn the character of the skull-lesion, I am acquainted with surgical expedients that render restoration to health more probable than the complication due to the incision renders it improbable. Hence I am justified, nay, compelled, by my reasoning, to advocate exploratory incisions of the scalp in obscure injuries of the skull.

The same line of reasoning forces upon me the conclusion that I should trephine whenever the fracture, whether originally an open one or so made by my incision, presents the possibility of the inner table being detached and splintered more extensively than the outer. In other words, I should cut the scalp to see the condition of the outer table, I should cut the bone to see the condition of the inner table, in every case where the risk of obscure knowledge is greater than the risk of divided scalp and perforated bone.

Many experimental fractures made in the dissecting-room, and observation of cases in the practice of myself and of others, teach me that extensive shattering of the inner table, with only a moderate amount of fracturing of the external table, is of frequent occurrence in other as well as in punctured fractures. I admit that the condition in the dead subject, with its shrunken brain, is different from that in the living; but there is much evidence of the same splintering to be found in the study of accidental and homicidal skull-fractures. Punctured fractures have long been treated by early trephining to avert encephalitis. For the same reason I recommend resort to trephining in more diffused and less accentuated fractures. It is to prevent inflammatory sequences, due to splinters forced into the membranes and brain, and to avert the consecutive occurrence of epilepsy and insanity, that the operation should be performed, not because of the fear that symptoms of compression of the brain may arise, nor because necrosis of detached portions of bone may occur.

I am not a believer in the pathology that teaches that the symptoms which we call "compression of the brain" are due to displacing pressure exerted on the brain-substance. How can a slight or even a considerable depression of a limited area of bone produce much pressure upon the brain-substance? How can the usually limited extravasation of blood under the seat of fracture fatally compress the brain, which is of firmer consistence than the blood itself? A rapidly-acting heart, after violent exercise, will throw enough additional blood into the cerebral vessels to produce more intracranial pressure than the ordinary depressed fracture. The complexus of symptoms called compression of the brain may possibly be the result of a disturbance in the local capillary circulation of the membranes and subjacent nervous tissue; but I cannot believe it to be due to compression or displacement of the brain itself. It is more probable that compression symptoms are the results of encephalitis, due to injury from spicules of the inner table, or to the irritation of intracranial bleeding.

As soon as the profession repudiates the idea that brain-displacement is what causes compression symptoms, so soon will every surgeon be convinced that early trephining is a proper exploratory procedure in order to determine what measures are demanded to avert encephalic inflammation.

"Compression of the brain," as seen after injury, should be translated "inflammation of the brain," and looked upon as probably due to unrelieved irritation of the brain-periphery, from traumatic causes. Not until this is so understood will the discussion as to the utility of trephining in depressed fractures cease.

I repeat, then, that trephining is not a therapeutic but an exploratory operation, and, as such, is demanded with much greater frequency than is usually supposed. If it is to be employed for exploratory and diagnostic purposes, early resort thereto needs no defence.

When about to use the trephine itself for perforating the skull, to allow elevation and extraction of fragments, the surgeon should select a small conical instrument: one not over three-eighths of an inch in outside diameter at the cutting end is large enough. Those usually kept by the instrument-makers are too large. It is only necessary to bore an opening sufficiently large to admit the end of the elevator: hence a small trephine is always more proper than a large one, except in those comparatively rare cases where a large disk is to be removed *over* the line of an old depressed fracture. Recently I visited the four princi-

pal instrument-makers of Philadelphia, and could not find in stock any trephine as small as that which I recommend. The belief which has caused trephines to be made so large is founded on an erroneous theory.

In recent depressed fractures the trephine crown should be applied upon the solid bone, and should overlap the *least* depressed edge of the displaced fragment. This allows more ready elevation or extraction by means of the elevator, because the *most* depressed edge is very frequently bevelled, with the inner table broken at a more distant spot, and is thereby wedged under the solid portion of the skull at that side. Elevation at the least depressed edge is effected more readily and with less danger to the brain from the manipulation.

To conclude, I assert that in all subcutaneous injuries of the head with possible existence of depressed fracture, an immediate exploratory incision should be made in the scalp. In all instances of depressed fracture with *possible* existence of splintering and spiculation of the inner table, an immediate exploratory trephining of the skull should be done.

Dr. George W. Vogler read a paper entitled

TWO CASES OF INTESTINAL OBSTRUCTION: ONE FROM IMPACTED FÆCES, THE OTHER BY STRICTURE DUE TO CANCER, WITH SPECIMEN.

Modern writers usually enumerate the causes of intestinal obstruction as follows: 1. Congenital malformation. 2. Internal strangulation. 3. Intussusception or invagination. 4. Constriction. 5. Compression. 6. Impaction of foreign bodies or intestinal concretions. 7. Impaction of fæcal masses.

Upon looking through the statistics of intestinal obstructive diseases, certain striking facts are noticeable. It is difficult to estimate the comparative frequency of intestinal obstruction. It is by no means a very common affection, always dangerous, and in a very large proportion of cases resulting fatally. Statistics show that most forms of obstruction of the bowels are more often met with in the male than in the female subject, the exceptions being obstruction by gall-stone or fæcal matter, constrictions by peritoneal or other adhesions, and compression of the intestine by tumors or displaced viscera.

As regards age and the portion of the intestine involved:

Obstruction by gall-stones always occurs late in life, and involves the jejunum and ileum. Intussusception may occur at all ages, especially during childhood, and is confined chiefly to the large intestine.

Stricture is a disease of adult life (of course always omitting congenital malformation), involving the large intestine; three-fourths of the total number being below the middle of the transverse colon.

With these few introductory remarks I will proceed at once to the reading of the notes of a case of intestinal obstruction by constriction due to cancer:

Mrs. Mary Müller, German, aged 58 years, widow, was admitted April 18, into the ward of my friend and colleague Dr. Adam Trau, at the German Hospital.

For some six months previous to her admission she had been under almost constant treatment by physicians. She stated that constipation was her chief symptom, for which all kinds of purgative remedies and various procedures were used, with but little avail.

She was anæmic, considerably emaciated, and very weak. Chief symptoms were obstinate constipation, great tympanites, severe pain, and almost incessant vomiting. Temperature and pulse not much disturbed.

A careful physical exploration of the abdomen, vagina, and rectum elicited no sign of a tumor.

A long œsophageal tube was readily passed into the bowel, even to the length of about twenty-seven inches, according to the statement of the medical resident.

In brief, it seemed that the case was one of a paresis of intestinal movement, due to some defect either in the intrinsic ganglia and nerves of the muscular intestinal coat, or through imperfection of the muscular tissue by degeneration, or both these causes combined.

The treatment consisted in the use of purgative remedies, large watery and stimulating enemata, with comparatively no results. Turpentine stupes, followed by hot flaxseed poultices, gave some ease. The introduction of a long œsophageal tube into the bowel, and massage of the abdomen, afforded much relief. So great was the tympanites shortly before her death that respiration was materially interfered with, necessitating the introduction of a small aspirating needle to afford temporary relief.

She was fed by pancreatized milk per bowel, and Cibi's beef extract and stimulants by mouth.

Death occurred April 29, by asthenia.

Owing to the interest taken in the case during life, the following gentlemen were present at the post-mortem examination, by invitation of Dr. Trau: Drs. Formad, Dercum, F. H. Gross, Barton, Jones, Vogler, and the residents, Weed, Stabler, and Rehfuss.

Body emaciated and abdomen greatly distended, the intestinal convolutions plainly mapped out upon the abdominal wall. The distention of the intestines, particularly the colon, was simply enormous. Some adhesions were noted. At the lower part of the descending colon a constriction was seen. This part of the intestine was carefully removed, and when subjected to the hydrostatic test was found to be impervious to a downward current, but readily permitted the passage of an upward current. On opening

the specimen along the line of the mesenteric attachment, a valve-like scirrhous tumor was exposed, which readily accounted for the phenomena observed in life,—viz., 1, ready introduction of fluids into the bowel by a fountain-syringe, also a rectal tube; 2, failure of the fluid to be voided after withdrawal of the tube; 3, an almost total absence of the natural passages from the bowel.

The specimen which I now pass around is well worth a careful inspection, the lesion consisting of two valve-like scirrhous masses completely encircling the bowel, to which it is alone confined.

The other case of intestinal obstruction was due to impacted fæces:

Mrs. F., aged 64, private patient, afflicted for many years with habitual constipation, frequently going many days without an evacuation; commenced complaining some three weeks previous to my visit, with severe pain in the left lumbar and umbilical regions, and an impossibility to relieve the bowels by powerful purgatives.

No other symptom of note troubled her up to within a few days, but now she was suffering with some fever, pain, nausea, exhaustion, and was passing some bloody mucus from the bowels.

Careful examination of abdomen and vagina revealed a large, hard, and irregular-shaped body or tumor, situated in the left lumbar region, painful to the touch, slightly movable, and entirely free from the womb and its appendages.

The diagnosis was determined by the history, the absence of acute symptoms, physical examination, and by the process of exclusion of other causes of obstruction. By this time her life was in great danger.

The treatment consisted chiefly in the frequent use of large enemata of soap-water, castor oil, turpentine, and laudanum.

Small doses of calomel and ipecac were given by the mouth. After two or three days some small and hard pieces of fæcal matter were passed for the first time, and a careful examination indicated the mass to have broken in two, one occupying the old position, the other the sigmoid flexure.

She was vomiting at this time.

The quantity of fæcal matter that came away during the following week was enormous. At one sitting as many as twenty-seven large pieces of hard, dry fæcal matter came away; and I give this merely as an illustration of the quantity passed at one time. Frequently it became necessary to unload the rectum by digging out the masses.

At times bloody mucus came away.

Of course, pain was very great during these operations, and opium had to be resorted to.

Gradually the swellings began to grow less, and finally disappeared. The patient was able to trace their slow movements along the intestines by the intense pain.

Only after weeks of careful treatment did this patient fully recover her health, and, strange to say, with a radical cure of her habitual and long-standing constipation.

GLEANINGS FROM EXCHANGES.

METAPLASIA.—Professor Virchow, at the International Medical Congress, said that in the first half of this century the theories about the different processes of life were chiefly of a chemical nature. The physician then supposed that the nature of the processes of life, both in healthy and sick conditions, was purely chemical. Life was thought to be bound to certain matter, which originally was found in a fluid condition in the body, and specially in the blood, and which, by assuming a solid form, came to constitute the different parts of the body. Even Schwann, in his famous theory of cells, postulated that the cells were formed by a sort of process of crystallization. The doctrine as to the matters from which the tissues were formed came originally from England, from Hewson and John Hunter, who preached the doctrine of plastic lymph. The theories of the Englishmen were made use of in Rokitansky's humoral pathology. But it was not likely that they would have obtained great significance or acceptance if the notion had not been general in physiology of an intercellular humor in the blood, to which Schultze gave the name plasma, and which was looked upon as the principal factor in the processes of generation and nourishment, which then came to be considered as identical. It was thence thought that the art of healing consisted chiefly in regulating the nourishment, and at this it aimed. It was about thirty years ago that he (Professor Virchow) had made the first step towards a true cellular pathology, when he gave forth the sentence, "Omnia cellula e cellulâ," by which the necessity for finding a plastema material for the origin of the cells was done away with, and which was viewed as a contrast to the doctrine of cell-formation from plastic matter. The process of nourishment in the fully-developed cell was not identical with the process by which the cell was generated, and there was a manifest difference between nutritive or trophic processes on the one side, and formative or plastic processes on the other. He explained how the task of nourishment was to keep the cell alive, and how the formative process consisted in forming other cells from one pre-existing cell. There was, therefore, a contrast between nutritive or trophical processes and formative or plastical processes. Even if the same matter were used, at one time in nourishing the cell, and at another in forming new cells, it was an organic activity which took place within, and not outside, the cells. He pro-

ceeded to define automatic nourishment, and that change of matter which he called "transit-change," and which consisted in the reception of matter by the several parts of the body, and their giving it up again without using it for nourishment. This term could not be used for the cellular nourishment, with which it had nothing to do. The term plastic he reserved for the forming of new cells. Having thus distinguished nutrition and generation from each other, he proceeded to say that the definition of "growth" was of a more doubtful nature, comprising two widely different series of processes. By hypertrophy they understood the increase of cells in size by taking in new matter, and by hyperplasia, an actual new formation of cells. Having shown a nerve to be growing nutrition, and a blood-vessel formation, he went on to speak of the production of new tissue-forms, of processes that were more allied to the plastic than to the nutritive, and the result of which was a change of the different parts,—that was to say, the formation of new cellular tissue, or metaplasia. The distinctive mark of this process was that the cells kept on living, while the character of the tissue was altered. This metaplasia was the foundation for many important pathological processes, without being itself of a pathological, but of a purely physiological, nature. It was one of the hypotheses underlying Darwinism. What was in the doctrine of embryogeny called "differentiation," and what in the theory of evolution was called "transformation," corresponded in the main with metaplasia. There had not been sufficient distinction made between those processes which tended to form new organisms and those which were destined only to form new tissues. For instance, the formation of bone in no case proceeded directly from the normal cells of the embryo; but first a transition-tissue was formed, and from this, by metaplasia, the bones were made. Proceeding to draw a distinction between calcification and ossification, he said that the question of the nature of the tissue which was converted into bone, whether cartilage or membrane, was not yet fully answered. Yet all agreed that there were to be found, before the formation of the bone began, soft parts, which afterwards came to constitute parts of the bone. Between calcification and ossification it was difficult to maintain a clear distinction. There was a calcified cartilage which was not at all osseous tissue. Moreover, it was very doubtful if, by transformation alone, cartilage could be turned into bone. The difficulty about understanding this question lay in its insufficient discussion. The bone had been examined without regard to how it appeared in life, and the questions of ossification and osteogenesis had been treated in common. Coming to consider the formation of the marrow of the bone, it was, he said, first thought of as a fluid in the cavity of the bone. Now there were distinguished three different conditions in which the marrow could be seen,—the red, the yellow, and the gelatinous. It was a tissue of changing forms, and was therefore a splendid example of metaplasia. It was formed, after a metaplastic fashion, as the osseous tissue lost its chalky salts, was turned into cartilage-cells, and cavities were formed in the bone for the marrow. If this took place to an unhealthy degree, the process was called osteoporosis, and if to a yet higher degree, osteomalacia. Marrow could, even though it were seldom seen, originate from cartilage, not directly, but through the red marrow, which was rich in cells and which then became yellow marrow (fat-tissue). The osseous tissue, in healthy as well as in unhealthy states, was to a large extent subject to metaplastic transformation. These processes had not yet been thoroughly studied. He had studied the formation of the spongy osseous tissue, and, in its regard, there was no question of a new formation of bone, but only of the formation of marrow. Referring to the white corpuscles of the blood, and the possibility of their forming a new organization, he laid it down that there was a limit to the metaplasia of the leucocytes. Cohnheim, he went on to say, held that all tumors grew from the remains of cells of the embryonic type. But he (Dr. Virchow) believed that many tumors took their origin from much later changes. The known instances of metaplasia occurred chiefly between tissues of the like origin, with a large amount of intercellular substance. There was a difference of opinion as to whether dissimilar tissues could be originated by metaplasia,—whether, for instance, fibrous tissue in the liver could originate from epithelial tissue. Against this it had been said that the epithelial tissues of the embryo originated from other cotyledons than those which gave rise to the fibrous tissue. But he (Dr. Virchow) held the opinion that tumors of epithelial structure could, by this process of metaplasia, originate from fibrous tissue. An experimental method of solving the question had not yet been found, and, without pretending to solve this difficult problem as to the possibility of metaplasia between heterogeneous tissues, he would simply point out that a satisfactory decision was hardly yet possible. —*British Medical Journal.*

INOCULATION OF RABIES.—Pasteur, in an able address before the International Medical Congress, embodied the following brief summary of the results of the Commission appointed to investigate the subject of preventive inoculation for rabies, appointed at his request by the French Government. He presented to the Commission nineteen vaccinated dogs, all of which had been rendered insusceptible by preventive inoculation, and thirteen of which after vaccination had been proved by inoculation by trephining. These nineteen dogs were compared in different ways with nine-

teen dogs chosen from others for the purpose of the experiments. In the first place, on the 1st of June, two of the protected dogs and two of the trial dogs were inoculated by trephining under the dura mater with the bulb from a mad street-dog. On the 3d of June one protected dog and one trial dog were bitten by a mad street-dog. On the 4th of June the Commission made the same mad dog bite another protected and another trial dog. On the 6th of June the mad dog which had been used on the 3d and 4th of June died, and with its bulb three protected dogs and three trial dogs were inoculated by trephining. On the 10th of June the Commission had one protected dog and one trial dog bitten by a fresh mad dog from the streets. On the 16th of June the Commission had two fresh dogs, one protected and one trial dog, bitten by one of the trial dogs of the 1st of June, which had gone mad on the 14th, as a result of the trephining performed on the 1st of June. On the 19th of June the Commission had three protected and three trial dogs inoculated in one of the popliteal veins with the bulb of a mad street-dog. On the 20th of June the Commission also had ten dogs—viz., six protected and four trial dogs, chosen from several others—inoculated in a vein. On the 28th of June, it having been brought to the knowledge of the Commission that a veterinary surgeon, M. Paul Simon, had a mad dog in his hospital, four dogs were brought to it, —viz., two protected and two trial dogs,—in order that it might bite them.

The Commission on rabies has thus performed experiments on thirty-eight dogs, nineteen of which had been supplied by me as insusceptible to rabies, while the other nineteen could be made mad. Those of the dogs which have not died as a result of the experiments are under observation, and will be kept under it for a long time. As to the present condition of the dogs which have been the subject of inquiry, the Commission report that in the case of the nineteen trial dogs, of six which were bitten rabies occurred in three, of seven which were inoculated in a vein it occurred in five, and of five which were inoculated by trephining it occurred in all, while *not a single sign of rabies has shown itself in any of the nineteen vaccinated dogs.*

During the course of the inquiry one of the protected dogs died on the 13th of July from a sanguineous diarrhœa, which first declared itself in the early days of that month. In order to determine whether rabies had any share in its death, three rabbits and one guinea-pig were at once inoculated with its bulb by trephining. All of these four animals are still in the best of health, which is a certain proof that the dog did not die of rabies, but of a common disease.

The next report of the Commission will contain information as to the insusceptibility to rabies of twenty dogs which have been vaccinated by the Commission itself.—*Medical Times and Gazette.*

THE PREVENTION OF OPHTHALMIA NEONATORUM.—A recent number of the *Archiv für Gynäkologie* (Band xxii. Heft 2) contains an article on this important practical subject, by Dr. G. Krukenberg. Its object is to put before the profession the experience of the obstetric clinic at Bonn with regard to the prophylactie measures recommended by Crédé. During the six years preceding the adoption of these precautions, ophthalmia occurred in 7.3 per cent. of the children born. In February, 1881, prophylactic treatment, after the method of Olshausen, was begun; that is, immediately after the birth of the head the eyelids were washed with a two-per-cent. carbolic acid solution, and the conjunctiva mopped with a similar solution. This was practised till June, 1881, in which period 82 children were born, and 11 of them developed ophthalmia, or 13.4 per cent. This treatment, therefore, was a failure. In June, 1881, the method of Crédé was adopted, with the modification that instead of a two-per-cent. solution of nitrate of silver in water, a vaseline ointment of the same strength was employed. The eyelids were, when possible, washed immediately after the birth of the head with a two-per-cent. solution of carbolic acid, and then the lids opened so widely as to expose the cornea, upon which a piece of the ointment was laid with a glass rod, and the lids then closed. The result has been that out of 703 children born up to November, 1883, only four have suffered from ophthalmia, or 0.56 per cent. In three of these cases Dr. Krukenberg believes that the child was infected subsequent to birth, from the fact that the disease did not appear till the seventh, eighth, and ninth days respectively. If this view be accepted, the percentage of ophthalmia caused during delivery is reduced to 0.14 per cent. The four cases all recovered well without injury to the cornea. Dr. Krukenberg discusses the respective advantages of the vaseline ointment and the watery solution. The vaseline adheres better, but he thinks the watery solution, which has only to be dropped in, safer in the hands of a midwife. Crédé's own results, too, are a trifle better than those at Bonn, and therefore at the latter institution they adopted the solution in place of the ointment. The first case in which the solution was employed developed ophthalmia, which was cured by using the ointment.—*Medical Times and Gazette.*

CHOLERA AND ITS BACILLUS.—Dr. R. Koch recently delivered an address before the Imperial German Board of Health (*Deutsche Medicinische Wochenschrift*), in which he gives a summary of the results of his laborious researches in Egypt, India, and France into the etiology of cholera. The only lesions which could be considered as constant and

peculiar were the modifications in the small intestine. There were some cases in which the lower portion of the small intestine had dark brownish-red coloration, which was most intense just above the ileo-cæcal valve, and there were some points of superficial hemorrhage, and necrotic spots covered with false membrane. In such the contents of the intestine were dark-colored, bloody, and foul-smelling. In others the redness was less intense, and perhaps existed only in patches, or the redness was confined to Peyer's patches and the borders of the follicles, this being a very characteristic appearance. In a few cases, however, the mucous membrane was very little changed, being only a little swollen and less transparent in the surface-layers, the solitary follicles and plaques being more prominent; the whole mucous membrane was pink, but in these cases there were no hemorrhagics. Examined microscopically, corresponding with the redness was found an invasion of bacteria of a peculiar kind, the so-called comma-bacillus associated with the ordinary forms of bacteria in the necrotic and diphtheritic changes of the intestine. These comma-bacilli were found constantly present in the intestinal tract and in the discharges during the attack of cholera. In the reporter's opinion, they were characteristic in appearance, and were present in sufficient numbers to cause the disease. Cultivations on gelatin show this organism to be different from all other bacteria as well by its mode of growth as its microscopical appearances. Thus far no permanent sporule-form has been found; the bacillus itself perishes as soon as it becomes dry. Experiments upon the lower animals have failed both with the cholera excreta and the cultivations, as animals do not seem susceptible to the disease, so that, until some other subject is found to which cholera is obnoxious, the conclusive proof of the identity of the comma-bacilli with the cholera germ will be wanting; but the results thus far are suggestive and valuable. In cases of suspected cholera the presence of the peculiar bacillus in the discharges would at least furnish some evidence of importance to health officers, and suggest the institution of early measures to prevent the spread of the disease.

HÆMOPTYSIS AND ITS TREATMENT.—Dr. Taylor (in the *Lancet*, June, 1884) discusses those cases of hæmoptysis in which there is a suspicion of pulmonary tubercle being present. Pulmonary hemorrhages are grouped under four heads: 1, the hemorrhage of the early stage of phthisis; 2, the hemorrhage occurring when the disease is fairly advanced and is progressing; 3, the profuse hemorrhage of the last stage; 4, those occurring in cases of bronchitis, in "bleeders," in vicarious menstruation, and in mitral valvular disease. As regards treatment, the author states that in many cases he considers there is an undue precipitancy in employing the astringents usually advocated, and that in the early stage of pulmonary consumption a small amount of hemorrhage has been rather beneficial than otherwise. A blood-spitting at this period is merely a method to alleviate a congested apex. Consequently it is a congestion that has to be combated, not the subsequent hemorrhage. The best treatment in these cases is to attend to the patient's general health, ordering moderate exercise without fatigue. As regards climate, the author considers a residence in the high lands around Buxton and the Derbyshire Peak to be highly beneficial; whilst Bournemouth, Hastings, etc., are too relaxing. In cases where the pulmonary hemorrhage is severe, it is better to give a good purgative than to rely on large doses of gallic acid, etc. An ice-bag placed on the chest is considered valueless, but the opposite line of treatment is highly recommended,—viz., the application of hot flannels over the angles of the ribs from the summit to the base of the thorax,—*i.e.*, over the sympathetic ganglia. Turning to medicinal remedies, the chief drug which the author relies upon is opium, this acting like a charm if given alone and in sufficient quantities. Should the hemorrhage be very profuse, digitalis may be added in doses of fifteen to twenty minims of the tincture. When opium is contra-indicated, then oil of turpentine or the liquid extract of ergot are said to be useful.—*London Medical Record.*

THE COMMUNICATION OF TUBERCULOSIS BY FOOD, AND THE DIMINUTION OF THE PATHOGENIC ACTIVITY OF TUBERCLE-BACILLI BY PUTREFACTION.—Baumgarten (*Centralbl. für die Med. Wiss.*, 1884, No. 2) has attempted to settle the vexed question whether tubercle-bacilli introduced into the organism with food, as in the milk of tubercular cows (which in animals suffering from tuberculosis of the udder has been proved by Bollinger to contain tubercle-bacilli), can produce tuberculosis. He experimented by mixing tubercle-bacilli with fresh milk and feeding young rabbits with this, and he found that the constant result was tuberculosis of the intestinal mucous membrane, the mesenteric glands, and the liver. The intensity of the tuberculosis was in direct proportion to the quantity of bacilli in the milk. A few tubercular nodules were found in the lungs. From his earlier experiments he had been led to the conclusion that post-mortem putrefactive processes destroyed or weakened the virulence of the bacilli. In order to determine whether the putrefactive process (sepsis), *per se*, hindered the development of tuberculosis, he mixed tubercle-bacilli with a virulent inflammatory putrefactive fluid, and found that local and general tuberculosis resulted from the introduction of this into the anterior chamber of the eyes of animals. He therefore thinks

that, although the *prolonged* contact with putrefactive processes weakens the activity of the bacilli, the septic process within the organism does not antagonize the development of tuberculosis. This conclusion is opposed to that of Falk; and he points out that the observation of Falk, that animals infected with pus taken from the local tubercular lesions produced by tubercular virus so weakened acquired general tuberculosis, is opposed to his view that the virus was really diminished in intensity, as in that case we should expect that the second series of animals should develop local, or at least modified, tuberculosis. —*London Medical Record.*

MENTAL ELEMENT IN GOUT.—Dr. J. Mortimer Granville calls attention in the *Lancet* (August 16) to the clinical fact that an attack of gout is particularly liable to occur in the gouty subject at either of two mental or cerebral crises: on the eve of a great mental effort, when the brain is at its highest tension, or after an intellectual effort, when the centres are exhausted. In the former case the attack is severe and accompanied by neuralgic pains, in the latter it may take the form of an epileptic fit or syncope, followed by more or less prolonged depression, or it may rapidly develop into a formulated arthritis of the ordinary type. In the former there is present a neurosis which calls for special treatment after the paroxysm is over.

In all forms of gout Dr. Granville has given the following formula with such success that he recommends its trial by others. He never gives colchicum.

℞ Ammonii chloridi, ʒiv;
Potassii chloratis, ʒii;
Glycerini, fʒxii;
Tincturæ iodini, fʒii;
Aquam ad fʒxii.—M.

Dose.—Two tablespoonfuls four to eight times daily.

THE CONNECTION OF ACUTE DIABETES WITH DISEASE OF THE PANCREAS.—Dr. Duffey has reported (*Dublin Journal of Medical Science*) a case of acute diabetes in a countryman, aged 24, which terminated fatally by coma after a course of seven weeks, and in which at the post-mortem examination the pancreas was found to be hypertrophied and indurated, presenting under the microscope, according to Mr. Abraham, the appearance of carcinoma. Dr. Duffey, while admitting that the connection between pancreatic disease and diabetes is yet quite obscure, draws attention to the statements of Lancereaux and Depierre, that it is especially in acute diabetes, the *diabète maigre* of the former author, that pancreatic lesions are met with.—*London Medical Record.*

ANTIPYRESIS BY INUNCTION.—Dr. Colbat urges a return to the old method of Schneemann of inunctions with fat or vaseline in the febrile diseases of childhood. He uses cerate or vaseline in scarlatina, variola, broncho-pneumonia, and other pyretic conditions, and states that it reduces the temperature and induces a condition of restfulness. He denies that there is any danger of blood-poisoning in the employment of these inunctions. — *Med.-Chirurg. Correspondenz-Blatt*, May, 1884.

CHRONIC SUPPURATION OF THE MIDDLE EAR, WITH PERFORATION.—Dr. John F. Fulton (in the *Northwestern Lancet*) recommends the boric acid treatment, the powdered acid being applied on absorbent cotton directly to the perforation in the drum-head, and changed night and morning. He prefers the dry method, and rarely uses the syringe. He has met with a case in which there was undoubted basilar meningitis complicated by double optic neuritis, which made a perfect recovery.

MISCELLANY.

MR. LAWSON TAIT, of Birmingham, delivered a clinical lecture at the Jefferson Medical College on the 15th instant, which will appear in our next issue. He received marked attention while in this city from the Obstetrical Society, as well as from individual members of the profession. He sails for Europe on the 20th, much pleased with his visit to his American cousins.

HOME CRITICISMS OF THE AMERICAN INSTITUTE OF HOMŒOPATHY.—The *New York Medical Times* (homœopathic, in a measure) charges the American Institute of Homœopathy with being a machine-ridden and obsolete institution, which has outlived its usefulness. It calls upon it to renounce its title or disband, and states, what is now very well known, that "homœopathic colleges," "homœopathic publishers," "homœopathic pharmacies," etc., cling to their distinctive name because it is a trade-mark without which they would become extinct. When the leading homœopathic (we beg its pardon) journal of the country talks in this bold way, we opine that the end is near. Homœopathy should be taught in all medical colleges as a branch of historical medicine or psychological therapeutics. In that direction matters are rapidly tending.—*Medical Record.*

SIR ERASMUS WILSON capped his former bequest of five thousand pounds to the English College of Surgeons by a bequest of one hundred and eighty thousand pounds. This windfall to the college represents about seven thousand pounds a year, and puts it in possession of a grand opportunity of distinguishing itself and benefiting at once surgery and the public.—*Medical Press and Circular.*

NOTES AND QUERIES.

SALIVATION FROM CORROSIVE SUBLIMATE DRESSINGS..

PHILADELPHIA, September 6, 1884.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

In an article in the *Times* of this date by Dr. Charles Meigs Wilson, on "Antiseptic Dressings of Mercuric Bichloride," there is the following statement:

"The other case was that of a hospital nurse, who, in order to get a holiday, simulated mercurialism, but a careful investigation showed that he was feigning."

The "Residents" who have served in the Pennsylvania Hospital for a number of years past, and others familiar with the house, will be surprised to learn that this schooi-boy trick, shamming sick to get a holiday, is attributed to the faithful and efficient head-nurse of the lower surgical ward.

They will wonder with me that in a purely scientific article an attempt is made to weaken the force of an objection by casting a slur on the character of a worthy man, rather than using the apparent exception as a means of further study on an important subject.

Drs. R. J. Levis and R. H. Harte both assure me that at the time referred to the nurse was unmistakably salivated, and he had to use soft food for nearly a week.

The relation between officers and employés of this Hospital is not such as to require either real or "sham" sickness to procure a holiday.

No release from ordinary duties was asked for in this case, except from handling the dressing. It is my impression that Dr. Wilson himself proposed this; but it received his hearty approval.

Respectfully,
RICHARD CADBURY,
Steward.

PRIZE OPEN TO UNIVERSAL COMPETITION.

THE Cartwright prize of the Alumni Association of the College of Physicians and Surgeons of New York is open to the competition of alumni of *any* medical college.

It consists of a prize of *five hundred dollars*, to be awarded to the best medical essay submitted upon any subject the writer may select. The award will be paid as soon as the successful article shall have appeared in print.

If no one of the competing essays be deemed sufficiently meritorious, the prize is not awarded. An essay, in order to be held worthy of the prize, must contain the results of original investigations made by the writer.

An award of this prize will be made at commencement, 1885. Essays must be sent to a member of the prize committee before April 1, 1885.

Competing essays must each be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author.

Prize Committee on Essays.

R. W. AMIDON, M.D., *Chairman*, 18 W. Twenty-First Street.
ROBERT ABBE, M.D., 32 E. Twenty-Fifth Street.
WALTER MENDELSON, M.D., 209 W. Forty-Sixth Street.

OBITUARY.

DR. ROBERT EMPIE ROGERS, Emeritus Professor of Chemistry in the Jefferson Medical College, Philadelphia, died in Philadelphia rather suddenly on the 6th of the present month. He was born in Baltimore, Maryland, and was graduated in medicine at the University of Pennsylvania in 1836. In 1844 he was elected Professor of Chemistry in the University of Virginia, and in 1852 succeeded his brother, Dr. J. B. Rogers, as Professor of Chemistry in the University of Pennsylvania, a position which he held until 1877, when he accepted the same chair in the faculty of the Jefferson Medical College. He resigned the duties of this position only a few weeks before his death, on account of his failing health.

PROF. COHNHEIM died at Leipsic, August 14, of gout complicated with disease of the kidneys, in the forty-sixth year of his age. He was one of Virchow's pupils, and was his assistant from 1864 to 1868 in the Berlin Pathological Institute. He was subsequently appointed Professor of Pathology at Kiel and at Breslau. In the latter place he made his celebrated experiments upon blood-vessels and the migration of the blood-cells in inflammation. In 1876 he succeeded Wagner at Leipsic as Professor of General and Pathological Anatomy, which position he held at the time of his death.

DR. BURQ, of Paris, who became famous in connection with metallo-therapy, of which he may be considered the founder, and whose theories as to the efficacy of copper as a preventive and cure for cholera obtained a wide circulation, has just died at Bièvres, in the sixty-third year of his age.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 31, 1884, *TO SEPTEMBER* 13, 1884.

BYRNE, CHARLES C., MAJOR AND SURGEON.—Relieved from duty in Department of California, and to report in person to the commanding general, Department of the Platte, for assignment to duty. S. O. 207, A. G. O., September 3, 1884.

TOWN, F. L., MAJOR AND SURGEON.—Relieved from duty in Department of the Columbia, and to report in person to the commanding general, Department of Texas, for assignment to duty. S O. 207, c. s., A. G. O.

GREENLEAF, CHARLES R., MAJOR AND SURGEON.—To conduct a detachment of recruits to the Department of the Columbia, and, upon completion of this duty, to rejoin his station, Columbus Barracks, Ohio. S. O. 210, A. G. O., September 6, 1884.

HAVARD, VALERY, CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, and to report in person to the commanding general, Department of the East, for assignment to duty. S. O. 207, c. s., A. G. O.

HALL, WILLIAM R., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, and to report in person, on October 1, 1884, to the superintendent general recruiting service in New York city, for duty at David's Island, New York, relieving Assistant-Surgeon M. E. Taylor from duty at that station. S. O. 207, c. s., A. G. O.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Randall, Dakota Territory. S. O. 98, Department of Dakota, September 5, 1884.

HOPKINS, WILLIAM E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The leave of absence granted him in S. O. 67, August 7, 1884, Department of Arizona, is extended one month. S. O. 204, A. G. O., August 30, 1884.

EGAN, P. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Fisher, to report at Fort Lowell, Arizona Territory, for duty as post surgeon. S. O. 82, Department of Arizona, September 2, 1884.

MACAULEY, C. N. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Sisseton, Dakota Territory. S. O. 99, Department of Dakota, September 6, 1864.

FISHER, W. W. R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Apache, Arizona Territory, relieving Assistant-Surgeon Egan. S. O. 82, c. s., Department of Arizona.

EWING, CHARLES B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as post surgeon at Fort Stanton, New Mexico. S. O. 177, Department of the Missouri, September 6, 1884.

MCCAW, WALTER D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON (recently appointed).—To report in person to the commanding general, Department of the Missouri, for assignment to duty. S. O. 209, A. G. O., September 5, 1884.

WOODWARD, J. J., MAJOR AND SURGEON.—Died August 17, 1884.

LIST OF CHANGES OF STATIONS OF NAVAL MEDICAL OFFICERS FROM AUGUST 31, 1884, *TO SEPTEMBER* 13, 1884.

P. A. Surgeon P. M. RIXEY, from special duty at Washington, D. C., September 8, and to the "Lancaster," European squadron.

Surgeon A. S. OBERLY, from the "Richmond," August 30, and wait orders.

P. A. Surgeon S. H. DICKSON, from Asiatic squadron, July 29. Sick-leave August 30, 1884.

Surgeon T. C. HEYL, September 8, 1884, from the "Adams," and to the R. S. "Independence," Mare Island, California.

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